Importance of Shelter.

SHELTER is a subject which comes directly home to every man who lives in the open country, and hopes to have a comfortable residence, with fields, orchards, and gardens, that may be cultivated with pleasure and profit. We fear that very many overlook this matter, in selecting and preparing their country residences. Elevated situations are generally preferred, and it is right they should be; such considerations as purity of air, facility for drainage, and a commanding prospect, have all too much to do with the pleasure and advantages of country life to be valued lightly; but whatever else we look for, and provide for, we should never forget to seek protection against prevailing winds, both for the dwelling and all that portion of the grounds to be devoted to the higher branches of culture. It matters not what latitude we are in, the necessity for protection exists. It may be much more necessary in one locality than in another, but nowhere that we know can it be dispensed with safely.

No man is so liable to err on this point, as he who has not been accustomed to country life—who has had no actual experience with the vicissitudes of climate and the destructive effects of high winds. He goes into the country in the midst of fine summer weather, when every spot is beautiful. An elevated site is sought for—one that commands a fine view, and is far above the influence of marshy vapors; such an one is found, and the dwelling is erected. Perhaps there is not a tree within half a mile of it; but that defect can soon be remedied by planting. Before the buildings are finished, however, the exposure begins to be felt—the winds blow fiercely, and the very house rocks on its foundation. But he perseveres—his house is completed and occupied. Winter comes, and with it biting blasts that penetrate every nook and corner. One room after another is deserted, and shelter is sought in whatever corner is least exposed. The dreary winter passes, and spring comes. A look over his grounds shows him nearly all his trees planted the autumn before are dead, frozen, and dried up. Well, it was a mistake to plant in the fall—he must plant in the spring; and so the dead trees are replaced with living ones; but they, too, find difficulties to contend with from exposure, and half of them perish before midsummer. So it goes for a year or two longer, when very likely he becomes sick of such rural delights, and returns to town.

This is not a mere fancy sketch. We have seen such cases in our own neighborhood, and such may be found in all parts of the country. A gentleman of our acquaintance, some years ago fell in love with a country residence a mile or two out of the town in which he lived. It was the most elevated and commanding situation in all the country about, and in fine summer weather, as he took his afternoon drive, his imagination revelled in the earthly paradise he could make of it, were it his. Finally, he purchased it, and fitted it up for his residence; but he very soon found out that he had

left some things out of account, and that many of the pleasures he had anticipated were more easily imagined than realized. It was a beautiful hill, to be sure, embracing in its view a large and populous city, several miles of a beautiful river, cascades, a distant lake, and some fifty miles or more of the most fertile and highly cultivated vallies in America. But the house stood upon its peak, and the winds from every point of the compass beat against it, as the waves do upon a solitary rock in the ocean; no shelter was there on any side. It was, therefore, not long before the novelty of the scene wore off, and the charm was broken. After battling the storm for a year or two, the gentleman sold out, and returned to town thoroughly cured of the passion for a suburban residence.

Now, all this place wanted was shelter, which, under some men's management, would have soon sprung up; but this was not thought of. If one of the first steps had been to plant thick belts of rapid growing trees around the exposed sides, the place would, in a few years, have become habitable; and instead of being, as it now is, dreaded by all, it would have been one of the most delightful places in the country.

But our purpose at present is particularly to call attention to the necessity of providing shelter to gardens, orchards, and grounds of every description, when valuable crops are to be grown. We believe that every experienced and observing cultivator will agree with us in saying that this is a matter of the first importance. Our own conviction is, that, however it may have been heretofore, it will be just as necessary in future to provide shelter as it will be to have a good soil and give it proper cultivation. Every season's experience, and the last most of all, strengthens this conviction more and more. The time was when our hill tops were crowned with forests that stood like bulwarks to break the fury of the storm and protect our fields and gardens from its destroying influence; but these bulwarks are, in a great measure, demolished. The necessities of some, and the short-sightedness of others, have "cleared" the hills, and now the winds sweep over them with unresisted violence. People just begin to realize what they have done, and regret it when too late. "Our climate is wonderfully changed," they say; "formerly we had no such cold, blighting winds as we now have—no such sudden and violent changes of weather; our climate is much less comfortable, and cultivation, of many things, much more difficult than it used to be." The farmer complains that his winter crops are more uncertain than formerly. When the snow falls, instead of affording protection to the surface of the ground, as it does in sheltered places, it is drifted before the wind, and piled up in heaps that melt only before an April sun. We see not only the snow blown off exposed fields, but the dried earth is actually drifted like the sands of an Arabian desert—the very plants growing in it scattered to the winds. See the destructive influence of the cold winds of winter and early spring upon the tender trees of our orchards, gardens, and nurseries! Cultivators in the prairie regions of Illinois, Wisconsin, Iowa, &c., tell us that they have nothing to dread so much as the cold winds of the winter months; and if they could only protect themselves against these, their country would be a comparative paradise.

In Western New York these cold winter winds are severely felt, too, and are really

much more injurious to vegetation than the most intense cold which we ever experience. A great many tender trees and shrubs stood the severe winter of 1851–2 in sheltered places without the least injury, while our mildest winters, such as '52–3, would have ruined them in an exposed place. We have beds of China Roses, and specimens of tender Yews and Junipers, that resist our coldest winters without covering, simply because they are surrounded with a thick plantation of evergreens. A single instance of this kind is as good as a thousand in showing the advantages of shelter, and every observing man may find such on his own premises. Those who have the management of glass structures know how shelter from the wind lessens the difficulty and expense of heating, and the risk of danger from sudden changes of weather. Every year we see orchards in sheltered situations bearing full crops, while those much exposed fail entirely. Throughout the whole range of cultivation we witness the same results.

But it is not merely against the winds of winter we need protection; we need it even more in spring, when the young leaves are unfolding and the blossoms expanding. This is the season of the year when our fruit crops and tender trees suffer most from exposure. Peach buds can resist a cold in winter several degrees below zero without injury; but a cold, dry wind, which lately we scarcely ever fail to have, at the moment when the buds are opening, arrests the course of vegetation, curls up the leaves, dranges all the functions, causing the fruit to drop, and gives the trees a shock from which they can scarcely recover. In such a time we see the advantages of shelter. Cold and violent winds, lasting two or three days in succession, are frequent in the season of the blossoming of the Cherry, Pear, and Apple, and we see the blossoms broken off and blown about in showers before the fructifying process has been completed. Last spring this was the case here, and in many parts of our grounds three-fourths of the crop was destroyed; in all the outside rows and exposed points this is particularly observable. In ornamental gardens there can be no complete success or satisfaction without ample shelter. We have seen charming beds of Hyacinths and Tulips ruined in a single hour where the wind had free access; and it happens that the finest flowers require protection most.

In midsummer we need protection as much as at any time. High winds bruise and and break the soft and succulent leaves and shoots, and bend and blow over trees. We have seen, in an exposed nursery, hundreds of fine young trees broken down and destroyed in a few minutes. Then in autumn, when the fruit is attaining maturity, how often do we see trees broken down and three-fourths of the crop scattered on the ground, a heap of worthless windfalls.

Shelter, therefore, is one thing indispensable at all seasons of the year—there is no safety without it. The cultivator, whose gardens and orchard stand exposed to the pelting of every wind that blows, must certainly be ill at ease; he cannot count upon the safety of his crops a moment. Under the most favorable circumstances there are great hazards; but his are doubly—trebly great. Like a cowardly landsman at sea, he watches every gathering cloud with alarm, lest it may bring forth a hurricane that will destroy his hopes.

But we shall be told that it is impossible that every one's grounds can be sheltered —impossible that every man can select a situation protected from the west and north by woods or hills. We grant this. We know it is not in the power of many of those even who purchase *new* places to plant themselves directly behind some natural protection; the country has been pretty well "cleared" of timber, and we must take it just as it is. What we advise, however, is this: that people who are about to purchase land for the purpose of planting extensive orchards, nurseries, or market gardens, should, even at great sacrifices, select a sheltered situation. Ten or fifteen dollars an acre in the first cost of land would be an important consideration in purchasing for farming purposes, but for orcharding, nursery, or market gardening, where the crops are of great value and easily damaged, it is as nothing compared to the advantages of a favorable situation. Experienced cultivators understand this very well; but beginners are apt to overlook it.

When an exposed situation is unavoidable, then the very first step should be to provide shelter in the speediest possible manner. For this purpose, belts of rapid growing trees — say double rows — should be planted so as to intersect the ground at intervals, and ward off the prevailing and most injurious winds of the particular locality. In Western New York the most prevalent and destructive winds are those from the west and north-west, and therefore our protecting belts of trees must run north and south—or perhaps better, a little north-west and south-east. The degrees of exposure and the character of the crops to be grown must regulate the distance between the rows or belts of shelter trees. For the purpose of shelter we know of no tree more suitable than the European Larch. In good dry land it makes a growth of three or four feet in a season; it retains its branches well at the bottom, assuming a pyramidal form; the tops do not spread far or shade the ground; the roots occupy a very small space, and never throw up suckers — besides it is a very beautiful tree, and can be easily raised from seed or purchased at a low price in the nurseries. Single rows of this might be managed so as not to occupy more space than a common hedge, and they would afford protection to considerable extent of level ground. The Norway Spruce is another excellent tree for this purpose, and it has the advantage of being *evergreen;* but it requires at least double the time to attain a height that would afford much protection except to small plants. The American Arbor Vitæ and Hemlock Spruce may be very properly used for this purpose, too; but neither of them are of such rapid growth as the first two named. The Lombardy Poplar, Balsam Poplar, Snowy Abele, and Silver Maple, are trees of which a very effective belt or forest may be made in six or eight years. Their growth is almost incredibly rapid, and this is the very purpose for which they are valuable. They cannot with propriety be planted through the interior of plantations, as we advise to plant the Larch, Spruce, Hemlock, and Arbor Vitæ, but they can be placed around the exposed borders and outlines, and do essential service.

In the culture of dwarf trees, flowers, vegetables, and all crops of low growth, common hedge rows of Buckthorn, Privet, Osage Orange, or, in fact, any rapid growing shrub, will be of great service. It would not be necessary to shear them in the usual

way for fences, but just enough to give them the necessary strength and compactness required for the purpose of protection against the elements. Those who have seen the gardens and nurseries of Europe know how highly hedges are esteemed for shelter; in fact, they are considered indispensable. In SKIRVING'S nurseries at Liverpool there are many miles of them, intersecting the ground in all directions, to break off the cold sea winds that, but for the hedges, would prevent the culture of many tribes of plants that are now grown most successfully.

In the second volume of the *Horticulturist*, page 58, Mr. DOWNING gave an account of Mr. TUDOR'S gardening at Nahant, which furnishes a very striking illustration of the benefits of shelter. We must give it in Mr. DOWNING'S own words:

"Of course, even the idea of a place worthy of the name of a garden in this bald, sea-girt cape, was out of the question, unless some mode of overcoming the violence of the gales and the bad effects of the salt spray, could be devised. The plan Mr. TUDOR has adopted is, we believe, original with him, and is at once extremely simple, and perfectly effective. It consists merely of two, or at most three, parallel rows of high open fences, made of rough slats or palings, nailed in the common vertical manner, about three inches wide, and a space of a couple of inches left between them. These paling fences are about sixteen feet high, and usually form a double row, (on the most exposed side a triple row,) round the whole garden. The distance between that on the outer boundary and the next interior one is about four feet. The garden is also intersected here and there by tall trellis fences of the same kind, all of which help to increase the shelter, while some of those in the interior serve as frames for training trees upon.

"The effect of this double or triple barrier of high paling is marvellous. Although like a common paling, apparently open and permitting the wind free passage, yet in practice it is found entirely to rob the gales of their violence, and their saltness. To use Mr. TUDOR'S words, 'it completely sifts the air.' After great storms, when the outer barrier will be found covered with a coating of salt, the foliage in the garden is entirely uninjured. It acts, in short, like a rustic veil, that admits just so much of the air, and in such a manner as most to promote the growth of the trees, while it breaks and wards off all the deleterious influences of a genuine ocean breeze—so pernicious to tender leaves and shoots."

A valuable lesson is taught by this mode of successful gardening under difficulties. We commend Mr. TUDOR'S example to men who are continually lamenting the sacrifices they have to make on account of their exposed situations, and yet make no effort whatever to improve it. Providence will not work miracles in our behalf. Every man who cultivates the earth must contend with the elements; and now that in this country we are making some serious attempts at gardening, we expect to see such a thing as shelter, which is the very foundation of success, receive due attention. It is worthy of note that we generally find, both at home and abroad, the best examples of gardening where the greatest difficulties have to be met. In the best climates, where tolerable success can be obtained without any special effort, improvements are apt to be slowly made. *Blackwood's Magazine* was not far wrong in classing "a moderately bad climate and a tolerably sterile soil," among the "prerequisites necessary to originate and cherish a love of horticulture." They are certainly necessary to awaken energy and forethought.

THE BARTLETT, OR WILLIAMS' BONCHRETIEN PEAR.*

We trust the well-informed readers of the *Horticulturist* will not take it amiss that we offer them in our frontispiece a portrait of one of the best known and most popular pears in America—the *Bartlett*. We are well aware that we can scarcely say anything of this fruit that is not perfectly well known to all fruit-growers of experience, for scarcely any man in the country plants half a dozen pear trees without including one or two *Bartletts;* but there are thousands of beginners in fruit-culture who are at this moment informing themselves, as well as they can, respecting what varieties to plant, and who are, after all, as ignorant of a *Bartlett* as they are of the greatest novelty in all the catalogues—and perhaps more so, for now-a-days the papers say much more of novelties than of good old established sorts. For the particular benefit of such people we give the *Bartlett* a place at this time, and we commend it heartily to them as every way worthy to be placed at the head of their selections. No other variety we can name has stood the test of so many climates and localities as this. Literally from Maine to Georgia we hear of its successful culture, with here and there an exception. At all the pomological meetings that have been held, no other, we believe, has been so unanimously placed upon the lists for general cultivation. It is an especial favorite with the New England cultivators, and is so extensively grown there as to be abundant and cheap now in the Boston markets.

It was originated in Berkshire, England, about the year 1770, and was introduced by a Mr. Williams, a nurseryman near London, and there called *Williams' Bonchretien*, which name it is still known by in England. In the French and Belgian catalogues it is called "*Williams'*," or "*Poire Guillaume;* latterly they add "*Bartlett of the Americans.*" The name *Bartlett*, by which it is almost universally known in this country, was originally given to it in consequence of being imported and first grown here by Enoch Bartlett, of Dorchester, Mass., who lost the name under which it was sent to him. It was sent from England to Mr. Bartlett about the year 1799, so that it has been now upwards of half a century in this country; but it has not been widely known more than half of this time. In *Kenrick's American Orchardist*, edition of 1833, it is classed among *new* varieties. At the present day it is, we think, more extensively propagated in the nurseries than any other variety, save, perhaps, the *White Doyenne*, the staple of the pear trade in Western New York.

Fruit—large; on young vigorous trees often *very* large, in some cases weighing a pound. Form—pyramidal, irregular. Surface—quite uneven. Skin—smooth, light yellow, with a delicate blush frequently on the sunny side. Stalk—stout and fleshy, an inch to an inch and a half long, and but slightly sunk. Calyx—open, shallow. Basin—very slightly plaited. Flesh—white, fine-grained and buttery, with a rich musky perfume, not wholly agreeable to many tastes; ripens all through Sept. Few pears admit of being picked so soon as the *Bartlett*, for they ripen well when gathered even before they are fully grown; and this quality is of great value, as it allows them

* See Frontispiece.

to be picked and transmitted to markets at a considerable distance. The tree — a handsome, erect grower, vigorous, and exceedingly productive, bearing quite young, both on pear and quince. It is readily distinguished by its narrow folded leaves and yellowish shoots. It takes and grows well on the quince, but is so disposed to fruitfulness as to become very soon enfeebled, unless pruned pretty close annually, and the soil about its roots kept in a condition to afford abundant nourishment. The reason why this pear is short-lived on the quince is, that the course of management is not adapted to its habits.

RAISING FRUITS FROM SEED.*

We know of no subject on which we can more profitably offer a few observations at this time of the year than that of raising fruit from seed. We are every year ransacking foreign countries for new varieties; we are not satisfied with what we have, and we never shall be. It is in the nature of man to seek for novelties; and it is well, on the whole, that it is so. We shall not say a word against this, but we wish to commend to people's attention the abundant means which nature has placed within our reach to produce new varieties here, at home, on our own soil.

Shall we neglect these? We hope not. There seems, fortunately, at the present time, a disposition in the public mind favorable to the improvement of home resources in a gardening sense, and the raising of seedling fruit is certainly one of the most important. Just enough has been already done to show what we may do, and afford us encouragement to proceed. Dr. Kirtland's cherries, Dr. Brinckle's raspberries, and many varieties of strawberries, all of much merit, are recent additions to our lists of fruits, raised from seed in the simplest manner, without any regard to the niceties of hybridization; so we can count up fifteen or twenty first rate American seedling pears, and every locality can boast of its favorite and peculiar seedling apples, some of which, and indeed many of which, have a national reputation, all grown from chance seedlings.

Now, in fruit-growing it is of the highest importance that every man cultivate such varieties as are best adapted to his soil and climate. One of the great problems which pomologists are at present endeavoring to solve, relates to this very point. As botanists have divided the surface of the earth into zones of vegetation, each of which is characterized by a peculiar flora, by the prevalence of certain trees, and shrubs, and plants that flourish there, and there only; so in fruit-culture it is believed necessary to map off this great country of ours, embracing such a variety of climate, into pomological zones, in each of which certain fruits will succeed better than elsewhere. On this pomological chart, which our American Pomological Society, if it live and thrive, will one day appoint a commission to draw up, we shall see clearly defined the exact limits of successful cultivation of our *Bartletts*, *Seckels*, and *Virgalieus;* our *Newtown Pippins*, *Baldwins*, and *Spys;* and this will certainly be a most interesting and

* From the Genesee Farmer for July, 1853.

valuable map. But it may be a long time yet before it is completed, or before we shall have collected the great mass of facts and statistics which the execution of the work will demand.

Meantime, we must urge upon fruit-growers, both professional and amateur, every man or woman, every boy or girl, who can obtain seeds of fine fruits, to plant them and rear them into bearing trees. We think it scarcely admits of a doubt but that this is the true way — we had almost said the *only* way to obtain varieties completely adapted to all local circumstances; we can read this plainly in the history of nearly all our native fruits. As a general thing, their culture is most successful in the region of their origin. Some, like certain genera of plants, are confined to narrow limits, beyond which they do not appear to prosper; others admit of a greater diffusion, and adapt themselves to a greater variety of circumstances.

We find the most forcible illustration of this in the case of northern and southern fruits. The *Fameuse*, *Pomme Grise*, and some other apples of the north, are best in the coldest latitudes, and fail as they go south, until they become worthless before they reach the Mississippi. So with southern fruits, like the *Rawles' Janet*, *Tewkesbury Winter Blush*, &c., that succeed only where the seasons are very long, and are entirely worthless in the north, where the spring opens about the first of May, and autumnal frosts come as early as the first of October. We believe the *Porter* and *Baldwin* are no where so good as in Massachusetts; the *Newtown Pippin* is best on Long Island and the Hudson; the *Spitzenburgh* in New York, &c.

Aside from the unquestionable facts of the case, it is clearly natural that this should be so. A variety springing up from seed in any given locality, is, in the course of its production, endowed with a constitution and habits adapted to that locality in a particular manner — just as men are more at home in the climate and mode of life of their native country than in any other, and are, in a measure, proof against local diseases that strangers would immediately fall victims to. This is all in strict conformity to the wise, harmonious laws, that regulate and govern all nature, animate and inanimate.

Now, we are an impatient people — a "fast" people, to use a current term — and we are quite loth to embark in any thing that does not promise immediate results. Our young men greatly prefer hazarding their lives for the chance of securing a lump of California gold to working a fortune patiently but surely out of their paternal acres. To such people, raising new and fine fruits from seed, where perhaps not more than one in ten thousand may be a prize, is a slow business, and any thing we may say will probably fail to convince them that it is not quite so slow as they imagine. But we shall try, nevertheless.

Suppose, for instance, we wish to produce some seedling strawberries; we take the finest berries of the best kinds we can procure; they must be perfectly ripe; we either wash the seeds out of the pulp, or we crush the berries, and spread out pulp, seeds, and all, to dry. We then sow either the clean seeds, or dried pulp and seed, in light earth, and by autumn we have nice plants. These we protect during winter with a

covering of leaves, and the next spring we plant them out into beds. The following season they will bear, and we will be able to see whether we have gained a prize or not. Raspberries, Currants, and Gooseberries, are managed exactly in the same way, and will fruit in the same time. This is not a tedious process. Three years, or four, enable us to arrive at some results with these small fruits, and very important fruits they are. Now it would take as long as this to raise a colt fit for market; and a first rate new Strawberry, Currant, or Raspberry, is worth two or three good colts at least, and it might be half a dozen.

Peaches are easily raised from seed, and come quickly into bearing. Every one knows how to raise Peaches from seed. The fresh pits may be transferred at once from the pulp to the ground, and in three or four years it will yield fruit. Pears and Apples are more tedious; but there is a way to manage these to obtain early results. Suppose, now, in 1853 we collect seeds of the finest Apples and Pears; as we take them from the fruits we place them in sand or earth until we have done collecting; we then plant them in fine, well prepared earth. Next spring they will grow, and in the autumn of 1854 we shall have yearling plants. While yet in leaf we select the most promising subjects—such as show in their features the greatest degree of refinement; then, instead of waiting for these to bear, which would not happen for ten years perhaps, we bud or graft them into bearing trees—dwarfs, if we have them—and in two years or so we will fruit them. Plums and Cherries are managed in the same way.

Now we think that no reasonable person who has patience enough to wait for the ordinary seed time and harvest, could call this a *very* tedious process. Aside from the advantages which it offers, the raising of seedling fruits is full of instruction and intensely interesting, as every one can testify who has given it a trial. We shall have more to say on this subject hereafter.

A FEW HINTS ON BUDDING, OR INOCULATION.

Budding, or *inoculation*, is one of the most general, and, in this country, by far the most important method of summer propagation. This operation consists in removing a bud from the variety to be propagated, and inserting it on another which is called the stock. Its success depends upon the following conditions: In the first place, there must be a certain degree of affinity between the stock and the parent plant from which we propose to propagate. Thus, among fruit trees, the Apple Crab, Pear, Quince, Mespilus, and Mountain Ash, all belong to the same natural family, and may be worked upon each other. The Plum, Apricot, Nectarine, Peach, and Almond, form another natural division, and work upon each other. The Cherry must be worked upon some kind of Cherry, and Currants and Gooseberries go together. In general practice the Apple is worked either upon Apple seedlings, which are called free stocks, or upon the *Doucain*, or *Paradise*, which are dwarf growing species, and are used for

the purpose of making small trees. The Pear is worked either upon Pear seedlings, which are called free stocks, or upon the Quince, to make dwarfs; occasionally it is worked upon the Mountain Ash and Thorn. But it must be borne in mind that while all varieties succeed on the Pear seedling, a certain number fail entirely on the other stocks we have named. Lists of such as succeed particularly well on the Quince will be found in previous numbers of the *Horticulturist*. The Cherry is worked either upon seedlings of what is known as the *Mazzard*, a small, black, sweet cherry, that forms a very large, robust tree; or, for dwarfs, on the *Mahaleb*, or perfumed cherry, which is a small tree with bitter fruit, about as large as a common pea.

In the second place, the buds must be in a proper state. The shoot, or scion budded from, must be the present season's growth, and it should be mature—that is, it should have completed its growth, which is indicated by the formation of a bud on the point, called the *terminal bud*, and the buds inserted should all be wood buds. On a shoot of this kind there are a number of buds unsuitable for working; those, at the base, being but partially developed, are liable to become *dormant*, and those on the point, where the wood is pithy perish. The ripening, or maturing of the buds, must regulate the period of budding, so that the time at which any given tree, or class of trees should be worked, depends upon the season, the soil, and other circumstances which control the ripening of wood. In our climate Plums usually complete their growth earlier than other fruit trees, and are, therefore, budded first; we usually have ripe buds by the middle of July. In some cases, when the stocks are likely to stop growing early, it becomes necessay to take the buds before the entire shoots have completed their growth, and then the ripe buds from the middle and lower parts are chosen. Cherries come next, and are generally worked about the first of August. The buds *must* be mature, or a failure will be certain.

In the third place, the stock must be in the right condition—that is, the bark must lift freely and cleanly from the wood, and there must be a sufficient quantity of sap between the bark and wood to sustain the inserted bud and form a union with it. Stocks, such as the common sorts of Plum, Pear, and Cherry, that finish their growth early, must be worked early; while such as the Peach, Quince, wild or native Plum, *Mahaleb* Cherry, &c., that grow late, must be worked late. If these stocks that grow freely till late in the autumn be budded early, the buds will be either covered up—"drowned," as it is technically called—by the rapid formation of new woody substance, or they will be forced out into a premature growth.

A very great degree of sappiness, in either the stock or bud, makes up, in part, for the dryness of the other. Thus, in the fall, when Plum buds are quite dry, we can work them successfully on stocks that are growing rapidly. This is a very fortunate circumstance, too. Young stocks with a smooth, clean bark, are more easily and successfully worked than older ones, and when it happens that the latter have to be used, young parts of them should be chosen to insert the bud on.

In localities where buds are liable to injury from freezing and thawing in the winter, the buds are safer on the north side of the stock, and when exposed to danger from wind, they should be inserted on the side facing the point where the most dangerous

wind blows from. Attention to this point may obviate the necessity of tying up, which, in large practice, is an item of some moment.

In the fourth place, the manual operation must be performed with neatness and despatch. If a bud be taken off with ragged edges, or if it be ever so slightly bruised, or if the bark of the stock be not lifted clean without bruising the wood under it, the case will certainly be a failure. The budding-knife must be thin and sharp. A rough edged razor is no more certain to make a painful shave, than a rough edged budding-knife is to make an unsuccessful bud. It takes a good knife, a steady hand, and considerable practice to cut off buds handsomely, well, and *quick*. As to taking out the particle of wood attached to the bud, it matters little, if the cut be good and not too deep. In taking out the wood, great care is necessary to avoid taking the root of the bud with it. Then, when the bud is in its place, it must be well tied up. Nice, smooth, soft strips of bark, like narrow ribbons, are the best and most convenient in common use. Every part of the cut must be wrapped so firm as to exclude air completely; and this should be done as quickly as possible, as the air soon blackens the inner surface of the bark, and prevents the perfect union of the new parts that are placed in contact.

We have thus stated briefly, for the benefit of beginners, the chief points that require particular attention in budding, or inoculation. Amateurs, who have little to do, should choose the mornings and evenings, or cloudy, cool days to do their budding; but nurserymen must work in all weathers, and in all hours of the day; but their superior skill and quickness render it less hazardous. When only a few stocks are to be worked, and the weather happens to be dry, a thorough watering or two will be of great service in making the bark lift freely.

GARDEN FURNITURE.

We continue our extracts and illustrations from *McIntosh's Book of the Garden:*

"Fig. 9 shows the elevation of the very elaborate moss-house in the grounds at Dalkeith Palace. It is now thatched with straw, but was formerly with heath. The roof projects four feet over the walls, forming a piazza or colonnade round the four sides, and is supported in front with oak rustic columns, and curvilinear brackets between. The floor is laid in manner of a brick floor along the front and ends.

"Fig. 10 is an elevation of the front wall under the colonnade, showing the casement windows, of which there are four in the building, the other two being placed one in each end. In front of these two windows are placed two rustic seats with open backs, which protect the glass, and, at the same time, do not much exclude the light. The mullions and frames of these windows are of oak, with the bark carefully preserved. The other parts are, as usual, of lead and iron, the center part of each opening for ventilation. The door is in two parts, and simply covered with thick pieces of oak bark on both sides. The door frame is the same as that of the windows. The

three panels over the door and windows are inlaid with pieces of oak, each cut into four sections, as are also the margins at the two ends. The roof of the colonnade all round is covered with different colored mosses within.

Fig. 9.

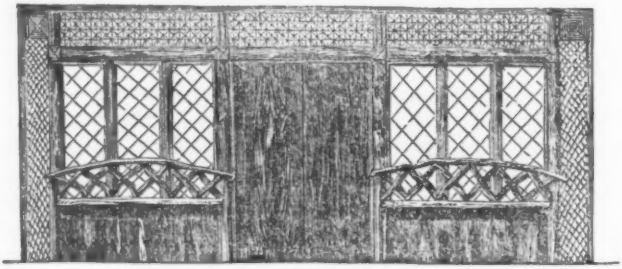


Fig. 10.

"Fig. 11 is the elevation of the two ends, showing the position of the windows. The surface is covered with shells, set in plaster of Paris, those under the windows being oyster shells, the other parts being done with smaller ones, found abundantly by the sea-side.

"The floor of the interior is of brick, not by any means in accordance with the other parts of the building. The seats are all portable, and consist of a sofa and six chairs, two of which are representations of arm-chairs, hollowed out of the trunks of two old oak trees, very much covered with excrescences; the others are light chairs,

formed of hazel, and the seats cushioned with *Polytrichium commune*. The sofa is also cushioned with the same, the back being open wickerwork. The table is circular, set on a clawed stand, and covered with a matting of *Polytrichium*.

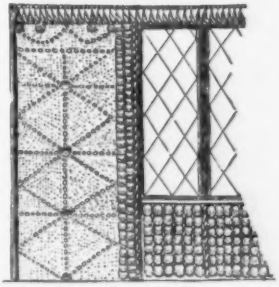


Fig. 11.

"The side walls are covered with moss. In the center of the back wall is a representation of a ducal coronet, done in fir cones. The roof is of *Sphagnum palustre*, a white moss; and in the center is a stag, three-fourths of the natural size, (the crest of the Scotts of Buccleuch,) done in a very ingenious manner with small rods of young larch. A cornice runs round the interior, formed of spruce cones, (fig. 12, *a*,) with those of *Pinus sylvestris*, or Scottish fir, (*c c*,) and of both alternately, as at *d*, and square knobs of oak, divided into four sections, as at *b*.

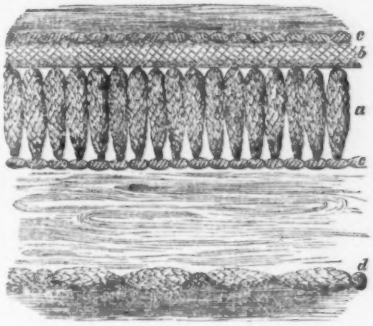


Fig. 12.

"Summer-houses are and may be constructed in a great variety of forms, and of different materials. Very neat resting-houses may be formed of 4-inch quartering, set upon a base of brick or stone, so as to raise the timbers one foot from the ground. These may be lined on one or both sides with boarding, and that covered with imitation basketwork, or designs formed of larch, oak, hazel, or any other wood, selecting the smooth branches; or, if desired, it may be covered with cones of various species of pines, so arranged as to produce a very pleasing effect. The rough bark of trees — oak, for example — may be used to cover the whole, or the sides may be divided into panels, with pieces of branches or cones, and the panels filled in with smooth or rough bark, according to fancy. Similar houses may also be constructed, by covering the quartering with lath, and plastering with good sound hair plaster, the surface of which, while wet, may be dashed with clean gravel, pebbles, small shells, scoriæ, spars, &c., sifted so as to be of a uniform size. Shells of various kinds are often used for such purposes, and are stuck in while the plaster is soft, and very pretty devices are often formed by them. As this work requires to be done expeditiously, it is necessary to have the shells sorted and close at hand; and to render the pattern or design as perfect as possible, it should be traced on the plaster first; and this process will be much facilitated, if the pattern is cut out in sheet-iron, thin boarding, &c., which being laid on the plaster, the lines can be traced with great accuracy and despatch.

"Again, great variety of design may be given to the plastered walls. 'Lines may be drawn by the trowel, straight, wavy, angular, intersecting, or irregular. Stripes,

checks, squares, circles, or trellis-work, may be also imitated. Wickerwork is a very general subject of imitation, and this is produced by pressing a panel, generally a foot square, of neatly wrought wickerwork against the plaster when moist. It is evident that this description of ornament might be greatly varied and extended, and that, instead of the panel of wickerwork, wooden plates, of patterns such as those used by room-paper printers, might cover the walls with hieroglyphics, with sculptures of various kinds, with imitation of natural objects, or with memorable or instructive sayings, or chronological facts.'—*Encyclopedia of Villa Architecture.*

"Such walls may have the appearance of age given them by the process called splashing; but in this case they require to be thoroughly dried, if the splashing is to be composed of glutinous material, or in oil colors, which are by far the most durable. If splashing is to be done in water colors, it matters not whether the walls be dry or not. As a general rule in splashing or even plain-coloring walls with oil colors or with glutinous material, the walls should be thoroughly dry, and it should be done at a season when they are not saturated with moisture. 'The reason for these rules is, that water colors do not impede the evaporation of moisture from the wall, and the absorption by the mortar of carbonic acid gas, by which it is hardened and rendered durable; while glutinous colors, by closing up the pores of the surface, do both.'

Fig. 13.

"Fig. 13 is in the simpler rustic style. One-half, which forms the front, is supported upon larch or oak posts, without plinth or pediment. The roof is simply thatched with heath or reeds, and the whole exterior nearly covered with creeping roses, clematis, &c. The whole of the inside is covered with moss of the commoner kinds. The floor may be clay or dark-colored concrete.

Fig. 14.

"Fig 14 is a very pretty garden seat. It may be attached to a stump, as in the drawing, or to a growing tree, which would be better.

"The fewer FENCES admitted into picturesque scenery, the better. Everything having the appearance of confinement, or defined limits, takes off from that freedom and expanse which form a leading feature in this style of gardening.

"It becomes necessary, however, under certain circumstances, to introduce them as means of protection; and when such is the case they may be used with propriety, for what is useful can not be in bad taste.

"The varieties of fences are numerous, and range from the rudest barriers, without nails or ironwork, to the highest grade of architectural pallisading. The fences admissible into the picturesque style should be of the simplest construction, and, excepting the ha-ha and *chevaux-de-frise*, chiefly of a rustic character. They are formed of young larch trees, generally on account of their being straight, and, being the thinnings of plantations, they are unfit for purposes requiring more strength.

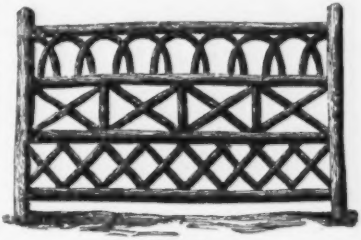


Fig. 15.

"Figs. 15 and 16 are of this description. They are generally fixed structures, although they may be easily constructed in separate pieces, and fitted up after the manner of portable hurdles. The side-posts or uprights should be of sufficient size to give, not only in appearance but in reality, the necessary strength. The longitudinal rails, or principal members, may be of less size; while the pieces used for the minor details should be proportionably more slender, as less strength is required of them. The chief difficulty in the construction of rustic fences is procuring proper material; and this difficulty is increased as we depart from straight lines. When curved lines are used, then dependence must be placed on wood of a flexible nature, such as the willow, hazel, mountain or common ash, &c. Much of the elegance of such fences depends on the correctness with which the joints are fitted together; and to do this in the best manner, mitred joints only should be employed. It is also of much importance, so far as appearance goes, that the bark of the wood be carefully preserved. No doubt rustic fences of peeled wood are often very prettily constructed; but these, till softened down by age, have a very harsh appearance, and few attempts at painting them have been very successful. Those colors which most nearly resemble the natural bark are the best, and greens and reds are the the worst of all.

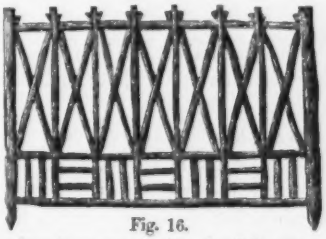


Fig. 16.

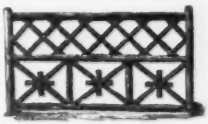


Fig. 17.

"The highest grade of rustic fences is represented by fig. 17. They may be made portable, and moved about like hurdles, or be stationary and in continuous pieces as far as the fence extends. They may be barked or unbarked, according to taste, but should never be painted.

HORTICULTURE.

BY J. J. SMITH, PHILADELPHIA, PA.

If there be two topics most likely to occupy deservedly the attention and regards of Americans beyond all others, those topics will be found to be Agriculture and Horticulture. Our tastes, and our wants, will require us to cultivate the earth; when politics fail to interest the active, when merchandising has produced its results, or when age makes us retire into ourselves and seek innocent resources from ennui, the garden is a sure resource, provided we have not neglected the opportunities so lavishly bestowed, and have kept pace with what is going on around us. To do this, it must be confessed, we must read occasionally, and study a little the books and periodicals devoted to the farm or the garden; these we shall mention as we proceed in our article —at least such as we are prepared by experience to recommend.

A man without a taste for gardening, is deprived of one of the very greatest enjoyments of life. Whether this taste can be acquired at a late period has been doubted; and therefore it is that at school city children should always have some instruction on the subject; and when it is practicable, a plot to cultivate under the stimulus of emulation.

As an example of the effects produced on a congenial mind, we will cite the instance of an extensive merchant, whose modesty will not allow the use of his name. *He* will know, however, whom we mean, by our thanking him, thus publicly, for a most superb basket of fine pears late in January from his own dwarf trees, planted, trimmed, and cared for by his own hands. In his school days he was so fortunate as to have a little garden spot "of his own;" there he toiled when Virgil and the conic sections were learned, and there he acquired his love. Loudon and Downing have since been his constant companions, and you may see him in spring and summer, as he leaves his counting-house, and walks with an animated step to the steamboat that is to convey him to his beloved garden, pick up—not the political newspapers of the day, though of these he has his portion, too—but the "*Horticulturist*," or the "*Cultivator*;" on the road he hastily peruses these, and when he enters his premises of a few acres, all under fine cultivation, with what enjoyment does he greet his children; all are his children, from the romping little curly heads to the curled celery and savoys; his dinner is ready, but he must stop as he ascends the path to give a little relief to a favorite vine or carnation, or snatch a strawberry, larger than any previous product, to display to his wife at the desert. Dinner is rather hastily despatched; with a child in each hand, behold him take the round of the green-houses, the graperies, the chicken-houses, and the little orchards and paddock. See him meet his gardener! There is no talk of copper mine stocks, or the money market. Dry goods are forgotten in the progress of the asparagus, and the crusade against the curculio; the apricots are inspected, and proper attention given to the promising cherries; the pruning knife is judiciously applied to the dwarf pears to give them the result we have indicated as so acceptable to ourselves; there is a little pinching off of the too luxuri-

ant growth to produce fruit spurs for next year; the mulching of the roots is seen to; the string of one of the props is adjusted, and the label which has fallen from the "*Duchesse*" is repaired and replaced. A little digging and raking, while the children run for the evening food for the poultry — our merchant, refreshed, not wearied, turns to the sun to see his last setting rays, and almost to reproach him for going to bed thus early, and oblige him to leave his favorites. Ah! before he turns in, in the approaching darkness, he just takes ten minutes to adjust the net over a favorite cherry tree—peeps under the leaves of his gooseberries and currants, and rejoices to see the fructification of the prolific buffalo-berry, which he has planted purposely to supply the frugiverous song birds.

Can this man ever want amusement? When fortune has smiled upon his mercantile transactions, will he be dependant upon foreign buffo singers, and sicken at the thought that there may be no opera? If fortune frowns, he has a pursuit; he could at any time change his occupation in the city and become a nursery proprietor, or send to market the finest fruits and market products.

We have already several such instances, one of which we must mention, because it has originality as well as utility. In one of the crashes which mercantile communities are all subject to, now and then, an extensive dealer was obliged to "stop;" the particular trade he carried on was overdone, but he had enough means remaining to retain about twenty acres of good land near one of our principal cities. To this he determined to devote his attention; his taste for rural life, not neglected while in prosperity, now came to his aid. This was years ago, before the great demand had brought supplies, even yet inadequate, to our doors. With much tact, our rural merchant plowed up and manured his land for the coming spring, leaving only space for a kitchen garden to gratify his family; in this he planted a few fruit trees, to be increased in number afterward. With the help of some old window frames, he forced one or two dollars' worth of celery seed, and planted the whole of his little farm with this valuable article. As it could be cultivated by the plow, principally, he had not a large sum to expend in wages, and when it was ready for market some lumber and nails were procured; boxes were made by our "hero," for such we contend he was, sand was dried, the celery housed and placed, a hundred stalks in each box, and with confidence it was exhibited to ship-owners, ship-captains, and stewards. The whole was sold at five dollars per box, and a surplus over the year's expenses of the family was the result. Here was a great want of the human family supplied in an original mode — an example was set to as many as chose to adopt his plan, and we need not advert to the many dinners it made agreeable to delicate sea-faring passengers, or the scurvy which this benefactor prevented.

Instances like this are not so rare as our readers may suppose. New York has but lately been supplied with grapes from Croton Point, by a gentleman of enterprise and good taste, to whom it might, in our opinion, be as just to award a gold medal by Congress, as to the hero of a bloody battle.

Of late years, the attention of gardeners and amateurs has been much attracted to the cultivation of dwarf fruit trees. The advantages proposed to be attainable are, a

greater variety of fine fruit in a small space, and bringing the trees at an earlier date into active bearing. The latter suits our American wish to go-a-head; we cannot wait for a fruit tree, in the old mode of growth, for five or ten years — a life time in the United States. We must have fruit the next year, at the latest; and though there are other advantages attained by the dwarfing system, this rapid product has its attractions to the young and old Rapids who are forming orchards and gardens. You can now go to a nursery in the spring, order your fall fruits, and grow them yourself; you say, "*Duchesse d'Orleans*," "*Beurre Bosc*," "*Winter Nelis*," "*Moorpark*," "*Coe's Transparent*," and so forth, adding, "but be sure they are trees that will produce the present season." The nursery owner winks his left eye as an evidence that he understands the kind of customer on hand, and selects his trees accordingly. If they do not bear very heavy crops the first year, a little is better than none; the second and third they will amply reward the amateur. One nursery in the State of New York actually disposed of fruit trees the past season to the value of one hundred thousand dollars! Pretty good evidence this, if any were wanted, that we are becoming a fruit-growing nation. And why not? The utility is argument enough; the profit is a still stronger inducement.

Every kind of instruction in the art and mystery of fruit-growing may now be obtained from American books, without resorting to French, Belgian, or English authors, who have heretofore misled us, because we overlooked the differences of climate, and so forth. The late Mr. Downing, whom all horticulturists loved as a brother, led the way in our country to the development of our capabilities in taste and the luxuries of the garden; to him will always be conceded the first rank in these respects; in him we lost our instructor, guide, and friend. Incomplete his instructions may have been, for he had much in store to tell us; let us be grateful for what he imparted, and follow his example. He has been succeded by others equally practical: *Barry's Fruit Garden*, and *Thomas' American Fruit Culturist*, are eminently instructive. The "*Transactions of the American Pomological Society*" should be in the hands of every lover of fruits; it contains lists of the best kinds suited to every locality, and without it the beginner would commit numerous mistakes by selecting trees that have been popular, but are proved, on trial, of inferior value. Reading on these subjects we consider essential; books, however, rarely tell *all* that one wants to know of a practical subject, and the amateur will do well to observe the proceedings of a successful neighbor regarding the cultivation and trimming, so essential in modern fruit-growing.

We have in this country several enthusiastic amateurs, whose great pleasure it is to enlighten their fellow citizens. Among them it will be proper to name William D. Brinckle, M. D., of Philadelphia; Professor J. P. Kirtland, of Cleveland, Ohio; the Hon. Marshall P. Wilder, of Massachusetts; Dr. Eshleman, of Pennsylvania; Nicholas Longworth, of Cincinnati; and a host of others, who, by their enlightened science and liberal views, are sowing broadcast the results of their labors and discoveries, and conferring benefits on America which future generations will amply appreciate. These gentlemen take out no patents; it is their greatest pleasure, when they

have discovered by hybridizing or any other means a valuable production, to diffuse it among their countrymen, happy themselves if they can benefit others. A miser, in horticulture, is an unknown animal. Horticultural societies are now diffused throughout the length and breadth of our land; even New York city, amidst her lumber of bales and boxes from Europe and the east, has found time and space to have her own "Transactions" in horticultural science. There is taste enough lying dormant among her citizens to give her a first position in this respect, and we are not sure but that her own vicinity has advantages for such pursuits beyond any of her sisters. The constant arrival of steamships from every climate, affords the opportunity of the early reception (in WARD's cases, or other modes,) of plants, seeds, and trees; and the demand for fruit, flowers, and vegetables within her own limits, must be the best on the continent. Let her infant society persevere, as indeed there cannot be a doubt that it will. Philadelphia and Boston are "ahead" of her in this respect, but when did she ever run a race in which she was not in the advance at last? She has private conservatories, and public nurseries, that rival those of her neighbors, and at this moment the State furnishes a large portion of the trees demanded by the commerce in these valuable articles.

It would be ungracious to close an article without naming the pleasure and profit to be derived from the successful culture of a kitchen garden. Here we must again mention our friend who rejoiced in his first successful experiment in celery. He continues his supply of that delicious vegetable, but hearing a European gardener make the true remark that Americans in the country never worked or employed their time to full advantage in the winter, he set himself to consider what article of consumption would best pay for outlay, at a season when nature declines, without assistance, to yield her fruits to man. Asparagus seemed to promise this result. After a trial, in a small way, he now forces this article on an extensive scale. His calculation is, that ten families at least, will give a dinner party every day, and be glad to give him a dollar each for this delicious dish out of season; if they do, and beyond a doubt they will, his winter beds of asparagus alone will more than pay for all his manure and wages for the year!

To those who design to make the most of their vegetable gardens, we especially recommend the perusal—not once only, but often—of *McMahon's Kitchen Gardener*. Abridgments are numerous, but experience has convinced us that it is the best work issued from the American press. Ample evidence of the diffusion of a taste for the subjects on which we have delivered a brief discourse, is afforded by the large sale of books exclusively devoted to Arboriculture and Horticulture; a second edition of those six beautiful volumns of *Michaux & Nuttall on American Trees* is now in press; the *Horticulturist* has thousands of eager subscribers, and other periodicals are equally successful. The readers of such works must have science and enthusiasm on their topics, but their intelligence does not stop here. The agricultural interest of New York is just now roused to the great want of their State, and they are urging on their Legislature the publication of an accurate map of the State, with definite infor-

mation as to the products and population of every county, for the use of schools and private persons. Such an example will not be lost on other States. New York will in this be the pioneer, as she has so often been in other things, and will complete what she began in her scientific explorations.

SEXUAL CHARACTER OF THE STRAWBERRY.

BY THOMAS MEEHAN, GARDENER TO CALEB COPE, PHILADELPHIA.

So MUCH has been said and written on this subject, that there seems to be room left for very little more. I have long felt with your illustrious predecessor, that the prevailing notions about the sexes of strawberries have become, with some, a *hobby*, which, "like most hobbies, has galloped considerably beyond the boundaries of sober truth."—(*Fruits of America, p.* 523.) I would like to offer a few words on the subject.

A short time ago the *Alice Maud* strawberry was under discussion in the *Farm Journal*. Some fancied their's incorrectly named. They were advised to wait and examine its sexual character, before judging of its authenticity. I had been for a long time experimenting on the sexes of strawberries, and had come to the conclusion that there is no *constitutional* difference between a pistillate and hermaphrodite strawberry plant.* A *pistillate* flower has *rudimentary* stamens. Unfavorable circumstances prevented their development; had these been favorable, the flower would have been perfect. These circumstances often act on the original plant of any given variety, even while the germ lies in the ovary of its parent, and thus give it a *tendency* to vary with the circumstances of *cultivation* or *accident*. This difference between a constitutional and an accidental tendency will be better understood by looking into a *double flower*. Take the Chinese Primrose: we may put a plant of a single variety into the richest soil, and do our best to excite luxuriance, but that plant will never produce a double flower; *that* is contrary to its constitutional character. But the double variety requires only to be neglected—suffered to become starved and stunted, and the *accident* which at its origin gave the stamens a tendency to become petals, is successfully opposed, and the flowers return to their perfect normal state. This illustration helps us considerably in getting to the bottom of the strawberry question; because we know that as *poor treatment* induced the petaloid stamens to return to their natural condition, *luxurious circumstances* must have been the accident that originated the tendency to depart from it. For, though we have not yet learned what precise cause first induced the strawberry to depart from its hermaphrodite state, we have the analogy of other plants for supposing it to be accidental. This supposition is more than strengthened by the fact that in England among seedling strawberries hermaphrodites are the *rule*,† pistillates the *exception;* while in this country the

*To avoid misconception it would be well to observe that only two distinctions are recognized in this district. When the term *staminate* is used it is understood as *hermaphrodite*.

†In England no pistillate seedling would be saved.—ED.

rule is *reversed*. Does this not seem to indicate that the difference is caused by *climatic influences*, whether or not the above reflections are sufficient to form the hypothesis that the cause is *accidental*, not *constitutional*, and consequently that circumstances which may oppose these accidents may "render the distinction between pistillates and staminates worthless, cultivation producing either one or the other?"

By using this expression in my paper read before the Horticultural Society of Pennsylvania, I have shocked the preconceived notions of many. I cannot help it—I repeat it; for not only is it consistent with physiological laws, as I have just shown, but also borne out by experience and observation. In the paper alluded to I have shown that runners taken from a pistillate plant, differed from their parent seven to five; and also that in runners taken from the same bed produced one hundred plants which under one state of circumstances became *all pistillates*, and another hundred, under different circumstances, became *nearly all perfect!* I exhibited plants of *Hovey's Seedling* having hermaphrodite and pistillate flowers, and *both on the same plant*. But this does not seem to be enough to convince that, *as a distinction*, the classes are worthless. Well, sir, I have here a level terrace formed on the fall of a slope. One end of this terrace rising from the level of the ground; the other being about ten feet above. On this terrace there is a strawberry bed of what I consider to be *Burr's Pine*, although planted two years ago for *Hovey's Seedling*. But the name is of no consequence for the fact I wish to mention. They are grown in rows; six or eight of the rows, on the elevated end, were composed of *pistillate* plants when they first came into flower—the remainder were perfect. Before they ceased flowering, the *whole*, with the exception of one solitary plant, became perfect. A gentleman who looked over this bed when they first opened, and a firm believer in the constitutional distinctness of sexual characters, came to the conclusion that the pistillate flowering plants "must be some other kind"—supposing them at that time to be Hovey's. This has been the only argument that I have met with on any occasion, where I have pointed out hermaphrodite flowering plants among pistillate ones—or the contrary, that "some other kind *must* have got in by accident." I was at a loss, for a while, how to convince others who had thus decided—till, one day, pointing out to a gentleman *perfect flowering* plants among the so-called *pistillate McAvoy's Extra Red*, and being met with the same objection, "that an erroneous kind had got among them," I was led to a close examination of each individual plant; coming direct from Mr. Longworth I could not doubt their correctness. The result was, that the hermaphrodite flowering trusses were found to proceed from the *same individual roots* as the pistillate ones. I sent you a root for verification, which I presume you received.*

I have been elaborate in explaining what I *do* believe in, because I do not wish to be confounded with what I *don't*. I do *not* teach that it is worthless to inquire whether you have pistillate or staminate plants. I have known to my vexation what it is to have a whole set of strawberries become pistillate, and should have undergone another trial but for a fortunate present of a staminate *Cuthill's Black Prince* from Mr. Buist, in flower, from which I fertilized the whole. What I wish is, to

* We did not.—Ed.

excite inquiry as to *why* the sexes vary; so that by knowing the *cause* we may be able to control the *effects*. If the sexual character be constitutional, then I admit my endeavors to show that a plant may change from a pistillate form to a hermaphrodite, and so on, are, as Mr. PRINCE says in the *Farm Journal*, "calculated only to excite ridicule," and we must be content in our forcing-houses to be always in doubt whether we are to have a crop or not until we see the berries; and in our gardens treasure up and encumber the ground with varieties we do not want, for no other purpose than to give a certainty to those we do. But if I can show that the cause is accidental, and consequently perfectly under our control, I think I shall be doing a service to horticulture of which I shall be proud.

[Our readers well remember how threadbare this question was worn a few years ago. The doctrine and practice of Mr. LONGWORTH and the Cincinnati growers came off triumphant, and the almost uniform course among planters from that to the present time has been to mix the two sexes in order to secure a good crop. This works well in practice, at any rate. Mr. MEEHAN holds that a deficiency of stamens, such as we find in *Hovey's Seedling*, *Burr's New Pine*, &c., is not *constitutional*, but *accidental*, and "perfectly under our control." We are compelled to disagree with him on this point; for, as long as we have grown these varieties, we have never seen a plant with perfectly developed stamens; and of several pistillate seedlings of our own raising the same thing may be said. It seems just as constitutional for them to be defective in stamens, as it is for the *Early Scarlet*, *Iowa*, and such as these to have them fully developed. It is true, we see upon close inspection slight differences in the degree of development of the rudimentary organs on pistillate plants, but we never see them with *perfect* stamens. We do not believe it impossible for pistillate plants to produce fruit without the aid of staminates, for we have seen abundant evidence to the contrary; but the crop is generally very inconsiderable and the fruit imperfect. The past season, however, we had a very fair crop of *McAvoy's Superior* in a situation where we supposed it beyond the reach of staminate flowers. *Schneike's Hermaphrodite* (as we supposed) was planted near it; but this proved a pistillate plant, sent us by mistake.

We think it very possible that climate has something to do in forming the character of seedling strawberries, as well as other plants. But why are these peculiarities produced by climate *not* constitutional? The *British Queen* does not become pistillate here, nor do we think that *Hovey's Seedling* will become staminate in England. The Weeping Ash is an accidental variety, but the habit is fixed and therefore constitutional as much as anything can be. Our experience in forcing or flowering strawberry plants with artificial heat under glass has not resulted like Mr. MEEHAN'S. Out of forty different varieties that were flowered in pots last spring, and carefully examined, wholly with a view to detect possible varieties from the usual sexual characters, we found not one. But Mr. MEEHAN'S experiments speak for themselves.]

PRESERVATION OF TREES ON TOWN PLATS.

BY T. M. COOLLY, TOLEDO, OHIO.

In all parts of the Western States are springing up towns that grow with great rapidity. Some of these are destined to rival the Atlantic cities in population and importance; many others will become second class towns of note, while a still greater proportion, though destined to an humbler rank, have still an equal interest with their more fortunate neighbors in attaining and preserving a character for pleasantness and beauty.

The sites of many of these towns are beautiful beyond description. Nature has spent centuries in growing and perfecting for their adornment the most graceful and most magnificent forest trees. She has diversified the surface with hill, and plain, and dell; she has sent sparkling rivulets among the woods, and festooned the trees with the ivy and the grape. The Oak, and the Elm, and the Maple, mingle their diverse beauties together, while modestly beneath their shade are to be found the less ambitious but scarcely less indispensable trees that are needed to complete the picture.

Unfortunately the founders of new towns are apt to be people who fail to appreciate sufficiently such beauties. They are men whose thoughts are bent upon speculation, and who find their highest and almost only enjoyment in the rapid acquisition of wealth. They call around them to build their houses, dig their canals, and construct their railroads, a population principally of needy emmigrants, transient persons, who go to and fro with the demand for labor, and who, having no permanent interest in the place, are only anxious while they remain in it to use as little as possible of their dollar a day in current expenses. Among such a population a tree is of no value, except as it may be turned into lumber or firewood. Robbery of the woods is universally esteemed fair plunder, and while the Yankee is stealing from the forest its best timber, the Irish and the German laborer is cutting his fuel from the remainder, with an equal disregard of titles and of division lines.

During the present season I have occasionally spent some time in the outskirts of the town from which I write, and which is a sample of many such places. But although it has suffered severely in the manner alluded to, it is not yet so unfortunate but that, if the evil be now checked, a considerable portion of its natural adornments will remain. The front of the town is already denuded of its trees, but elsewhere, in the direction of its growth, and in close proximity to its building, are still to be found forest trees in great variety. Magnificent Oaks — the growth of centuries — have stationed themselves at little intervals in all directions about the city. These Oaks, if properly appreciated, are invaluable; for they give us, ready grown, such grand old shade trees, as generations must wait for from our own planting.

A younger growth of Oaks in great variety is also here to be met with. The White, the Red, the Black, the White Swamp, the Scarlet-leaved, the Chestnut, the Willow-leaved, and perhaps other varieties that do not now occur to me, are here to be met with, and a selection of foreign trees could scarcely be made that would give

greater beauty to a place than this family of Oaks. These trees are young and thrifty, and have sprung up since the Indians were driven from their hunting grounds hereabouts, before which time the young growth was kept down by an annual burning-over of the openings.

Here also are to be occasionally found the Sugar and the Scarlet-flowering Maple, and the graceful Elm is scarcely ever out of sight. The Buckeye is also frequent; the Honey Locust throws out its long, thorny branches on all sides; the Aspen is to be seen in the neighborhood of the stately Ash, and now and then a Mulberry, with the Black Walnut, the Butternut, the Plane, and the Linden, complete the picture. No! not complete it, for the Hickories are all about us — rugged and sturdy, but full of unpolished beauty, and deserving all the better care in their preservation where they have planted themselves, because of the impossibility of transplanting them. The Buttonwood, the Tulip tree, and the Willow, are also to be found in particular localities, and the Glossy-leaved Thorn, the Dog-wood, the Cherry, the Balm of Gilead, and the Sassafras in others. The Red Cedar, that once grew along the banks of the Maumee, has unfortunately been already exterminated, and the lovers of rural beauty mourn its departure as that of a cherished friend. But the list already given is sufficient to show how profusely and variously the ornaments of nature still adorn this neighborhood.

A proper degree of care on the part of the citizens, and the protection by the city authorities of the trees standing along new streets, would give to a town thus naturally favored, a plesant character and appearance that few places ever attain—and that, too, with little trouble and less expense. It is not necessary to plant, but only to select and save. Every citizen may build his house under the shade of noble forest trees, and every street may be lined with them in considerable variety, and of all sizes.

It seems a matter of surprise that such advantages fail to be appreciated; but it is very commonly the case that the forest trees are all cut away before the inhabitants take a thought about shade trees. This is about as reasonable as cutting off a beautiful head of hair to make way for a wig. In Adrian, Mich., a place now unsurpassed in the horticultural taste of its inhabitants, scarcely a tree can be found standing along the streets where it originally grew. The noble Oaks, and Elms, and Hickories that were found upon its site, have been levelled with the earth, and its citizens are now lamenting the bereavement, and waiting impatiently the slow growth of those they have planted. The last of the Elms that I now recollect to have seen growing in its streets, was cut down by a street overseer, who chanced to have occasion for brush in filling up a ravine. It was a fine tree, and not a few felt hurt and indignant at its destruction; but the road-master saw no value in it, except as he could make its branches useful in preventing the washing out of earth from the street.

In the towns which, though injured, are not yet so bady defaced — and there are many such—it is to be hoped that a different policy will prevail. Proprietors ought to guard their trees with far more vigilance than they would their money, because they are far less quickly replaced. Town authorities ought sedulously to protect avenue

trees, not only as a means of rendering their place pleasant to its inhabitants, but also because the beauty of the town is a part of its wealth, and has an extensive influence in attracting capital and valuable citizens to it. If he who plants trees is a public benefactor, how much more so is he who preserves those already grown, and which, for a long time, will be far more valuable than any which he might plant.

It is to be hoped that this subject will attract more attention at the West than it has hitherto received, and that our new towns, while so rapidly attaining strength, will preserve, in some degree, that comliness which nature designed for them.

THE APPLE ORCHARDS

BY L. DURAND, DERBY, CT.

Much of late years has been written and said about apple orchards and their cultivation. On most all farms of any extent in the Eastern or Northern States there are more or less of old apple orchards. These, for the most part, have been left to grow up and take care of themselves, which, in the long run, amounts to just no care at all. The consequence has been, that they have become, by this neglect, unthrifty, scrubby trees, full of dead limbs, the trunk and limbs covered with moss and rough bark, presenting an unsightly appearance; and in eight or ten years, the farmer, in early spring, would mount the trees, axe in hand, and cut and slash off large limbs and small, leaving the spurs sticking out from three to six inches long from the trunk, while the tree would be so much relieved from wood that it would take it ten years to get back to where it was at the time of pruning—so that, in the long run, we think that the "let alone system" much preferable to the ten years' trimming plan, although both plans are what every good reasonable farmer should be ashamed of.

Now what these old orchards want, is, a thorough renovation in the shortest possible time. The first thing to be done, is, to cut off the old top of the growing trees and set on a new one by grafting. This can be done best by the common mode of "cleft grafting." Those limbs that are the size of a "hoe-handle," or an inch and a half in diameter, should be selected, as they soon heal over, making the limb sound. The "grafter" should commence in the top of the tree to saw off limbs, and so work down, taking care to graft every tier of under limbs at a longer distance from the trunk, so that the grafts will have plenty of room to grow and not interfere with each other. To have this work done in a business-like manner requires three hands—one to saw off the limbs and pare the stocks; another to set the scions, two in a stock; and the third hand to put on the wax. All old trees that have a good sound trunk, however many dead limbs they may have, should be sawed and grafted. But many old trees require different management. Some, by bad pruning, have grown their old tops up very high. To graft these old tops at such a distance up, would be a difficult job; at the same time they would make an unsightly appearance in growing. Such trees should be "headed down"—that is, the large limbs sawed off at such

distance down the tree, that when the new shoots put out they may form a handsome top. These sprouts, if they are of thrifty growth, may be grafted the second season, or "budded," as the case may be. Old large trees of slow growth should not, in all cases, have their whole top taken off at once, as the shock might kill them. But in these cases the south half of the tree might be taken off first; then, say in two years after, the north half could be treated in the same way, and the tree saved. As to the time of pruning apple trees, it may be done any time from May to October; but it should be done regular every year, and then only small limbs will be taken off; but in the case of old, neglected orchards, more or less of large limbs must be removed. About all the tools wanted are a sharp hand-saw, a fine pruning-saw, and pruning-knife. It will be well to have the large wounds covered by a composition of gum shellac, dissolved in alcohol to the consistency of paint, and put on with a brush. This, I think, is as cheap and as good composition as can be had for closing the pores of the wood—also protecting it from the weather. The best grafting wax I have ever used is that made of four parts of rosin, two of bees wax, and one of tallow, melted together, and kept in an iron kettle. In an ordinary sunny day the kettle, standing in the sun, will gather sufficient heat to keep the wax in good working order. This wax will not melt in the hottest weather; neither will it crack and come off in the coldest weather; but it will remain on the stock two or three years, or until it is entirely healed over. Another thing which should be done at the time of pruning is, the trees should be scraped entirely of moss and rough bark, by a "tree scraper." This can be done best directly after a heavy storm, as the bark and moss then will be in the right condition to come off. After this cleaning, a wash, made from wood ash lye, or potash water, should be put on the trunks and large limbs, which will kill all insects and larvæ, giving to the bark a smooth appearance. The "scrapers" may be had at any of the implement stores at a cheap rate.

If I were to advise whether to plant a new orchard or renovate an old one, I should say, renovate the old one first, by all means; because your labor can be made to pay a great deal quicker on the old orchard than on the new. In from three to four years' time your newly grafted trees will begin to bear, and so continue to increase from year to year, while at the same time you have made a handsome improvement on the stock of your orchard. Old orchards that are kept permanently in grass should have the soil dug up around the trees every season; and if done as far as the branches extend, it will be all the better. Manure should be dug into the soil occasionally, as the case requires. Where orchards are near the "pigery" it is a good plan to let the swine have the run of the orchard through the warm season, as they will eat and destroy most of the "windfalls" under the trees, and also keep the soil stirred up in search of worms, &c. Much is being done, at present, by farmers and cultivators, in setting out young orchards. This is a commendable work, and shows that the right spirit is at work among our farmers. But the setting out of a young orchard, and then letting the trees take care of themselves, is a "loose business," which too many cultivators still follow to their own loss.

The soil in an orchard should be kept under cultivation the whole time, until

the trees shade the ground so much that it will not be profitable for hoed crops or grain. As to the distance apart the trees should stand, it will depend something on the trees planted. My observation tells me that, as a general thing, apple orchards are set too close on the ground. The trees should be set at such distance apart that the trunks will grow to at least eighteen inches in diameter before the branches approach each other. Some six or seven years ago I set out a young orchard of *Baldwins* at a distance of forty feet one way by thirty the other, and when the trunks reach the size of a foot and a half, I think that the ground will be nearly covered. An orchard of *Rhode Island Greenings* should be set at least forty feet each way, as this tree opens more like the umbrella in shape; the branches extending out horizontally from the trunk, it covers a large surface. There is nothing to be gained by crowding trees so that the branches will come together when the trees are eight or ten inches in diameter at the trunk; but much is lost in this way. The trees should have room to extend their branches, should the orchard live and thrive for an age or century to come. The quality of fruit is much better, also, when the trees have plenty of room and sun-light to mature the fruit.

One word as to the over-supply of good fruit for market, which some cultivators seem to apprehend from the great attention given to this business. I have no idea that the supply will equal or exceed the demand for good fruit in this country in the next fifty years to come. Of course, prices will vary according to the amount of fruit grown in a season, and other circumstances connected with the business; but good fruit of all kinds will always bring a remunerating price to the careful and patient cultivator; and then we look for the cultivation of hardy kinds of apples for the "foreign trade," to become a business hereafter of which we know but little at present. Something has been done in this way already; but that a great deal more will be done in the next half century, and that, too, at a large profit, we have no reason to doubt at present. Farmers and cultivators will continue to make all the improvements they can, both in their apple and other fruit orchards.

NOTES ON STRAWBERRIES FOR 1853.

BY R. G. PARDEE, GENEVA, N. Y.

Crescent Seedling.—This new variety from New Orleans has, in my garden—this its first season of bearing north—proved a perfect failure. The plants are very strong and vigorous; the blossoms large and distinctly staminate; the berry of rather light color, nearly round, of rich, high flavor when ripe, but a moderate bearer, and no appearance, thus far this season, of prolonging the season of strawberries north, as it has ceased bearing.

McAvoy's Superior.—We had large expectations of this new variety, and have not been disappointed. It has this season been superior to any of the fifty varieties in bearing on my grounds, and besides, I have seen it in bearing in several other gardens

on Long Island, Newburgh, and in this vicinity; and in all places where I have seen it, it has, as far as one season's trial can do it, proved number one in size, flavor, and productiveness. Some question has arisen about its being of sufficiently high flavor to meet its reputation, and the taste of imperfectly ripened specimens at several exhibitions has given some reason for this objection; yet, after repeated and careful examinations of it in various gardens and locations, in company with some whose taste is intelligent, we think it of high, rich flavor, and expect it will prove an acquisition.

McAvoy's Extra Red appears to be fully equal to *McAvoy's Superior* in every particular except flavor, and is superior to it for a market fruit, having borne twenty miles land carriage, and forty-eight hours exposure to hot weather after gathering, without losing its fine color or form.

Longworth's Prolific.—Most of the Cincinnati nurserymen have sent out spurious plants for this new variety, and thus greatly chagrined multitudes in this country; but I have seen the *genuine* in bearing in three or four counties in our State, and in most cases it has handsomely sustained its high reputation. From my observation of it this seasen, I conclude it gives promise of being one of the best, if not the best staminate that has come under my observation.

Walker's Seedling has borne handsomely. Fruit good size; very handsome form and color, and rich flavor. It promises to be an acquisition to our staminates.

Moyamensing Pine has rather exceeded my expectations for a market fruit. It has borne well, and fair to large size; very bright color, and, like *McAvoy's Extra Red*, retains its color and good appearance a long time. The flavor is satisfactory as a market fruit, although not of the grade called high flavor.

Monroe Scarlet has again sustained its high reputation as a remarkably profuse bearer, fine size and flavor.

Genesee Seedling is growing in favor. It is a very handsome fruit, good flavor, vigorous, and usually a fine bearer for a staminate.

Burr's New Pine has also sustained its reputation for good crops, and richest, most agreeable flavor of all strawberries.

Hovey's Seedling has done nobly in various locations. My old bed, now five years old, continues to bear well, and always, since first year's failure, produces me large, fine fruit, with the largest single specimens of berries, although some few kinds excel it in the average size and productiveness. There is no fear, I opine, that *Hovey's Seedling* will ever be discarded by an intelligent amateur—and yet, it has nearly failed its crops this season in several fine gardens in this vicinity under very rich cultivation, while, on the contrary, I noticed in Col. STODDARD's grounds at Palmyra, a remarkably fine crop on a spot of old sterile pasture ground, that last year would scarcely bear corn, without trenching, manuring, and watering. Several other similar observations during this and the preceding years, confirm my opinion that *Hovey's Seedling*, as well as most other American strawberries, will bear the best crops in soils only moderately rich.

Black Prince produces its usual tolerably fair crops of handsome fruit.

Princess Alice Maud is moderately growing in favor; is early, handsome, and a fair bearer.

Large White Bicton Pine bears better crops of rich, handsome fruit, than we expected.

Cornucopia has done much better this year than last. I shall try it further with care.

British Queen has borne but a small crop of fine fruit under the most careful cultivation of a skillful English gardener in Geneva. At Dr. HULL's it did decidedly better.

My other varieties have not varied essentially from notes on them in August number of the *Horticulturist* for 1852. I have seen, during the season, numerous seedlings of others, and raised some myself, but, as yet, am unwilling to take the responsibility of introducing any of them to the public without further trial. My next experiments are for seedlings of *McAvoy's Superior*, *Large White Bicton Pine*, and *Walker's Seedling;* but, of course, the result is very doubtful.

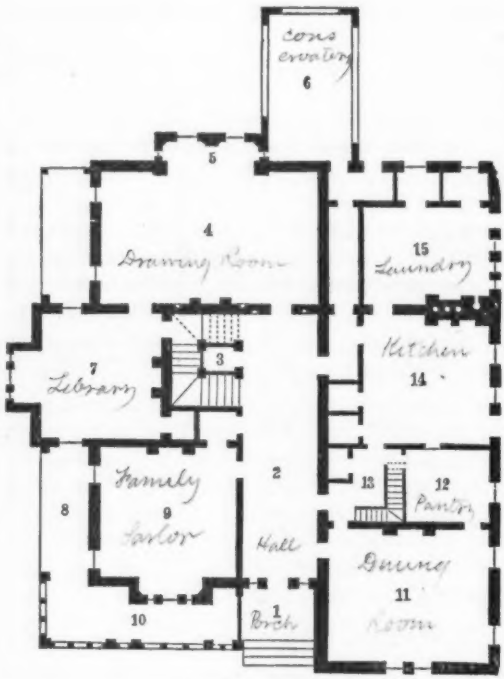
ERRATA.—In my communication in the last number of the *Horticulturist*, when speaking of the blossom-buds of the *British Queen*, bearing on Dr. HULL's grounds, you make me say a *quarter* of them bore: my notes said, or should of said, the *greater* part of the blossom-buds perfected fruit. R. G. P.

DESIGN FOR AN ITALIAN VILLA.

BY GERVASE WHEELER, ARCHITECT, NEW YORK.

THIS design of a villa suited to the accommodation of a family of liberal mode of living, has been recently erected at Norwich, Conn. Its situation is eminently adapted for the display of architectural beauty, and on account of the commanding prospect enjoyed from the upper windows in the tower, amply justifies the introduction of such a feature in the composition. Its material is brick, dressed with Portland stone; the roofs are of tin, and the verandas, &c., of wood. The distribution of the rooms may be understood by an examination of the plans, which provide accommodations on a most liberal scale.

The principal floor comprises an entrance porch (No. 1), which leads by means of wide doors into the hall (2) of spacious dimensions, in which is contained the principal stairway (3). At the end of the hall is a handsome doorway, with niches on either side, opening into the drawing-room (4), which possesses a charming feature in the shape of a large bay (5), a side-window, which opens into the conservatory (6). No. 7 is the library, a well proportioned room, having a projecting reading-window, with also French windows leading on either side into verandas, marked on plan No. 8. The library, it will be seen, contains a large closet. No. 9 is the family parlor, with windows on one side opening to the veranda, and with a projecting window looking upon a terrace (10). This room conducts, by means of a private lobby, into the entrance hall and stairway, so as to afford a retreat for the ladies, if surprised by



PRINCIPAL FLOOR.

too matutinal a visitation. The dining-room (11) is a large and handsome room on the opposite side of the entrance hall, having connected with it a spacious and well lighted butler's pantry, complete with every convenience (12), and also an inner hall (13) leading to the kitchens, and containing various closets, and the back and cellar staircases.

The kitchen and domestic arrangements are as follows: No. 14 is a large and well lighted kitchen, well supplied with closets, and having a separated lobby that permits access to the hall and main body of the house, and yet entirely shuts off the domestic office from exposure. This lobby terminates in a covered way near the conservatory, which gives access to the usual adjuncts of the building, which space would not permit to be shown upon the plan. No. 15 is a laundry, or back kitchen, containing a large larder and store closet. Beneath the whole house is ample cellarage, seven feet high in the clear, and well lighted and ventilated, and in the very center of the building is a sub-cellar, some six or seven feet deeper, containing the heating apparatus — one of CHILSON'S largest sized furnaces — a position which prevents the loss of heat by pressure upon a long length of horizontal pipe, and secures the easy ascent of the warmed air into the rooms, and its ready and natural distribution by proper ducts throughout the house.

The chamber floor is thus apportioned: No. 1 is a large, well lighted corridor, leading from the principal stairway, and conducting by an open lobby (2) to a chamber (3) over the library. No. 4 is a chamber of the same size as the parlor beneath, and 5 a smaller single room, or it may be a dressing-room. No. 6 is a large room, the same size as dining-room. 7, the back staircase. 8 is a dressing-room, or single chamber. 9, a large sleeping-room, amply supplied with closets, and reached from the landing, 7. 12 is a hall leading to water-closet (11) and bathing-room (10); the tub in which occupies very little room, placed as the plan represents.

It will be seen that the portions of the building containing drawing-room, laundry, &c., only extend one story; the house could, therefore, at any future time, be thus much increased in size, and light to the hall and staircase elsewhere obtained.

SECOND FLOOR.

The attic floor contains abundant accommodation for servants, and a large room over No. 6 suitable, from its airy position, as a nursery, or spare room. There is also a handsome room in the upper story of the tower, which is reached by a staircase placed in the corridor on the attic floor. All the apartments throughout the house are of large size, and the height of the stories are in proportion.

The external appearance of the building is very effective—the breaking up of the parts that the plan permits giving an opportunity for picturesque treatment of its outlines. The character of the work is bold, and the general effect of the mass harmonizes very well with the surrounding scenery.

The cost of the building, with its adjuncts, has not exceeded twelve thousand dollars, and it is well built and finished throughout.

There are many minutiæ of convenience that the smallness of the scale does not permit me to show in the plans, but as a type of the American Suburban Villa, I think the design will bear inspection, and the arrangements of the building a close and critical examination.

Foreign Notices.

EXHIBITION OF KITCHEN GARDEN PRODUCTS IN ENGLAND.—The first show of the season under the new arrangement was held on the 24th of May, and, strange to say, there were but two competitors. The *Gardeners' Chronicle* reports:

"Of collections of vegetables, which were especially invited on this occasion, two were produced—one by Mr. BURNS, gr. to Earl STANHOPE, at Chevening, the other by Mr. SPIVEY, gr. to J. A. HOUBLON, Esq., of Hallingbury, near Bishop's Stortford. Fifty-six varieties came from Chevening, and only ten from Hallingbury. Some of Mr. SPIVEY's produce, as his Broccoli and Leeks, for instance, were, however, better than Mr. BURNS'; but then he fell far short of Mr. B. in point of a large and finely varied collection, which is what the Society was desirous of encouraging, in order that it may show what a garden skillfully managed is really capable of furnishing at different seasons of the year; the first prize was therefore awarded to Mr. BURNS, and the second to Mr. SPIVEY. Mr. BURNS sent Wilcove and Miller's dwarf Broccoli, Fulmer's dwarf Kidney Bean, Horse-radish, Celeriac, a vegetable used in soups, but not now very often seen; Seakale, Jerusalem Artichokes, Asparagus, Red Beet, Cattell's Reliance Cabbage, young silver-skinned and Strasburg Onions, old Potatoes, London Leeks, Mushrooms, both large and in the button state, Jerusalem Kale, Victoria, Giant, Linnæus, and another kind of Rhubarb; white and red Turnip Radishes, and a salmon-colored variety, apparently a good long kind; Walker's white-spined Cucumber, curled and Normandy Cress, Mustard, Chicory, Celery, knotted Marjoram; common and Lemon Thyme, hardy green, white, and Bath Cos Lettuces; Sweet Basil, Fennel, red, common, and variegated Sage; Tarragon, summer and winter Savory, Batavian Endive, Chervil, fine double and giant Parsley, Sorrel, Watercresses, Burnet, round and prickly Spinach, and Italian Corn Salad, which, as we have before stated, is much better than the common sort.

"Mr. SPIVEY produced new Potatoes, young Carrots, Broccoli past its best, but large and fine; Cabbages, Spinach, some very good Leeks, Asparagus, Seakale considerably past its best, Myatt's Victoria Rhubarb, and Mushrooms. Of foreign produce, Mr. LEWIS SOLOMON, of Covent Garden, sent a salad consisting of very good Curled Endive, Paris Cos Lettuces as large and fine as they could possibly be produced about London at any season, and red Turnip Radishes. A Banksian Medal was awarded. It may be mentioned here, that the Garden of the Society also contributed a collection of vegetables, consisting of round Summer Spinach, and the following Cabbages: Wheeler's Nonpareil, Early Plaw, Tiley's Early Marrow, the best very early kind, being sweet and tender, with no waste; Early Battersea, *alias* Fulham or Vanack, the best for a general crop; London Market, a large sort, but a little coarse; Sutton's Early Coomb, Early Nonpareil, and Brown's early. The same establishment likewise furnished Linnæus, Victoria, Prince Albert, and Prince of Wales Rhubarb, the latter a short, deep red sort; Cock's Hardy White Cos Lettuce, Victory of Bath and Galway's Victory Cucumbers, and the Virginian Poke (*Phytolacca decandra*), a plant indigenous to the United States. The leaves of the latter are unwholesome; but the young shoots, which lose this quality by boiling in water, are eaten in North America as Asparagus. These shoots, which make their appearance very early in spring, are cut when about six or eight inches long; they are then scalded with boiling water, and afterwards boiled for twenty minutes in water, with a little salt in it; they are then placed on a suitable dish, with a small portion of butter added, when they are ready for table. Dressed in this manner, it is considered in America quite as good and delicate as Asparagus.

"Of plants, Messrs. LUCOMBE, PRINCE & Co. received a large Silver Medal for a very fine variety of Cattleya Mossiæ, having more orange in the lip than common, and for a collection of new

hybrid Cape Heaths, consisting of Lindleyana, Exoniensis, pulcherrima, insignis, exquisita, and metulæflora superba; all fine kinds, possessing large bold flowers and bright clear colors; they were stated to have been raised from Massoni, ampullacea, Sprengeli, Hartnelli, and aristata, all, it will be seen, good parents. The same nurserymen also sent Andromeda formosa, a charming new white-blossomed evergreen shrub, from Nepal, which has been found to be hardy at Exeter, and which certainly well deserved the Banksian Medal which was awarded it, and along with it the brilliant Begonia Prestoniensis, grown in a green-house; Acacia hispidissima, a new kind, with large bright yellow flowers, and apparently sufficiently shrubbery to be suitable for pot culture; Viburnum plicatum, a very fine Gueldres Rose, sent out some time ago by the Horticultural Society, and a Calceolaria called Ajax (yellow with brown blotch), which, having a stiff good habit and multitudes of showy blossoms, will doubtless make a good bedding plant. Messrs. Henderson sent a little shrub (called a Pultenæa), from Swan river; and Mr. Glendinning had a New Holland plant called Dianella cærulea, for which a certificate was awarded. It produces a great tuft of grass-like leaves, from among which issue tall flower-stems, terminating in fine panicles of blue blossoms. Owing to the absence of sunlight, however, they did not open, and therefore the whole beauty of the plant was lost. Mr. Burns, of Chevening, sent half-a-dozen White Ischia Figs. The plants from the Society's Garden, consisted of three Cape Heaths; Coleonema pulcherrimum, two Azaleas, Boronia microphylla, Eutaxia myrtifolia, an Everlasting, Medinilla magnifica, two species of Begonia, and the handsome Æschynanthus speciosus."

Pyramid Pruning.—I never see anything like proper pyramid pruning in this country. Having given attention to the mode pursued by our brother gardeners in France, permit me to give critically the mode so followed; that those who like to have trees of that character may, by time and attention, easily supply themselves with them in this country. The process consists in shortening the first year's shoot of the Apple or Pear tree, called the graft shoot, to one foot at a full bud. The first year, on pushing out in spring, rub off all laterals except four or five at the bottom of the stem, to garnish it with a first tier of branches for future years. Train the leader to a stick quite perpendicular. The next winter proceed as before, by shortening the leader to twelve inches at a full bud. Remove all intermediate buds as before down the leader, and leave those at the bottom to form a second tier of laterals; and shorten the lower tier to an outside bud. After the second year shoot, the summer pruning consists in rubbing off the laterals, forming now the lower tier, above and below the branch, so as to keep them as horizontal as possible. Strengthen those which grow horizontal, by pinching off the ends if necessary. Each tier should be, as near as may be, twelve or thirteen inches, one above the other; and if possible, the branches of each succeeding tier should be so grown as to be above the intervals of the tier below. Thus, as we see in France, this training makes a beautiful symmetric tree; which, without blousing the borders, may, when planted at distances of twenty or more feet, adorn the flower beds of a geometric garden, with presenting to the eye of taste the offerings of Flora and Pomona at one and the same time.—*Wm. Mason, in London Gardeners' Chronicle.*

How to drive away Moles.—Take 1 lb. of bean-meal, 3 oz. of slaked lime in powder, ½ oz. of powdered verdigris, and 4 oz. of essential oil of Lavender. After mixing thoroughly the powdery part of this composition, incorporate the oil. With a little water work the mixture into a dough. With this form balls the size of hazel nuts; they will harden after having been exposed to the air for twenty-four hours. Introduce them twenty or thirty feet apart into the mole's runs, or one ball may be dropped into the hole of each mole-hill, taking care to cover it up immediately. The smell of these ingredients is so offensive to the mole, that he immediately deserts his ground. The mixture is, at the same time, a violent poison for moles, rats, and all such vermin.—*Flore des Serres.*

Editor's Table.

MR. HOVEY ON ROOT-GRAFTING.—In the course of some observations on Root-Grafting, in the May number of this journal, we asked Mr. HOVEY to explain the superiority of budded, or stock-grafted over root-grafted trees; in reply to which he says:

"Our theory therefore is, that a great many varieties of apples, as well as other fruits, are so different in habit from the original species, that they do not grow freely on their own roots, and that root-grafting, from not imparting a rapid growth to the young scion, induces a weakness in the young tree, from which it will not quickly recover; just as a tree, grown on poor and stinted soil, makes its first sap-vessels so small and contracted, that no after treatment will enable it to acquire a vigorous condition."

Now it will be recollected that we stated expressly, that root-grafting was not applicable to slender growing sorts, and we quoted examples; but Mr. H. quotes the *Rhode Island Greening* and *Roxbury Russet* as slow growing trees, that do not succeed root-grafted. This is not true in Western New York, whatever it may be in Boston. Both of these are strong growing trees, though inclined to be crooked, and they bear root-grafting as well as any others, not excepting the *Baldwin*.

In another place, Mr. HOVEY says that the orchards of Western New York, which he spoke of as being so fine, were "set out years before root-grafting was ever practiced." This is an error. We defy any man to find an extensive orchard of Apple trees, old or young, in Western New York, that are *not* root-grafted. This can be proven, not only by the oldest living authorities, but by the trees themselves.

It is quite a waste of time to make assertions in the face of downright and well known facts. But Mr. HOVEY and we are not agreed as to what root-grafting is; we supposed there could be no difference of opinion on this simple point. If grafting on roots is not root-grafting, we do not know what is. Mr. HOVEY says:

"Root-grafting, by taking the whole of the root, is nothing more than *stock*-grafting at the surface of the ground, and Mr. B. don't certainly intend to call it by any other name. What is meant and what is practiced by everybody, is to take a root of a seedling and cut it into pieces, four or six inches long, which are then whip-grafted; or pieces of roots of old trees are just as good. It is done to save time and expense. To take up a whole root, and then graft it, and set it out again, would be the most expensive way of getting a tree, for nothing would be gained and much lost, as there would be the cost of resetting, and the loss of time in reëstablishing the plant."

It utterly surprises us that a man of Mr. HOVEY's experience should write in such a manner. Root-grafting, by taking the *whole* root, is *stock*-grafting, indeed; and then to say that "Mr. B. don't intend to call it by any other name!" A pretty good joke for Mr. HOVEY. But this is not more laughable than his notions of economy.

Suppose, for instance, that a nurseryman has in the seed-bed 1000 Apple seedlings fit for working. If he root-grafts them, he takes them up in the fall, puts them in the cellar, and

in winter, when he has little to do, he grafts them; it is just a day's work to do that. In spring he plants them out, and then all the labor is over, except keeping the ground clean, and removing suckers occasionally for the first season. But suppose he buds, or "stock-grafts" them; the stocks have to be taken up, then pruned, planted out, and kept clear all summer. If the season be very favorable, and the stocks at least two years old, they may work the same season they are set out; but the chances are very frequently against them. Then they must be budded, and budding a thousand is quite equal to grafting; we would rather do the latter, for our own part; besides, the stocks must be looked over and dressed before budding. Then, again, budding is much less certain than grafting; very few are fortunate enough not to be under the necessity of budding a large number the second time, and, withal, to have failures. Then, again, the ties must be taken off; the stocks headed down; and, during the first season's growth of the young bud, three or four crops of shoots have to be removed from the stocks below the bud. When the bud has completed its first season's growth, the grafts have grown two years, and the labor required from that time until they are ready for market, will be just the same.

Now, is it not perfectly plain to every man that the buds, up to the end of the first year's growth, have required, at least, four times the amount of manual labor, and consequently expense. We are not guessing at these things, but arguing upon the strength of actual practice during many years, and upon a pretty extensive scale, where all the cost has been carefully counted and compared. But this question of cost is merely incidental, and should have no weight in determining the merits or demerits of either mode of propagation, for a vicious system should not be countenanced on the ground of its economy. A poor tree should never be purchased at any price; our efforts always have been, and shall continue to be, exerted in favor of elevating, rather than lowering, the standard of excellence in trees. The superior taste and intelligence of the present day demands and warrants better systems of culture on the part of tree growers, than have heretofore been generally put in practice.

Mr. HOVEY very generously gives the following "particular case" to prop up his tottering arguments:

"We will mention one particular case. We had some *Melon* Apple trees of Messrs. ELLWANGER & BARRY, in the spring of 1849 or '50. When we received them, we cut off a few scions. The trees were set out carefully, in a good situation, and the scions were grafted into stocks, set in the nursery rows one year. The latter are now more than *twice as large* as the former, with the promise of being *ten times* as large in two years more."

Now the candid reader will at once say that a single case of this kind amounts to nothing. Would it afford any argument against budding, if we should say that in our grounds there are several stunted, withering specimens, from Messrs. HOVEY & Co., that in seven years have not grown as much as some trees of our own working have done in two? We would be ashamed to use such an accident as an argument.

The growth of root-grafted trees in this part of the country, is such as to challenge the growth of budded trees in any part of the world. If that be any argument in favor of root-grafting, we claim the benefit of it. But this is not the real point of the discussion. Mr. HOVEY says, coolly, that his stock-grafted trees of three years growth, we suppose, are twice as large as the root-grafted trees from ELLWANGER & BARRY of five years, and "in two years more they will be *ten times* as large"—that is, supposing the five years old root-grafts to be six feet high, and two inches in diameter of trunk, his stock-grafts of three years must be twelve feet high, and four inches in diameter; and in two years more,

allowing the root-grafts to grow *none*, the stock-grafts will be some sixty feet high, with diameter in proportion. Prodigious! These trees should be in BARNUM's Museum, or the Crystal Palace.

It is idle to follow Mr. HOVEY further, while he deals in such loose, extravagant statements. We will close this subject, for the present, by quoting from the "*Prairie Farmer*" the experience of EDSON HARKNESS, Esq., one of the most extensive Apple tree growers in the west:

"I have about eight hundred to one thousand grafted and budded trees which have come to bearing. Not much difference as to the number of those budded and those which are grafted. Now, instead of finding a great difference in their hardihood, early bearing, &c., I would not give five dollars to have them all changed to budded trees; or, rather, I do not think they would have been any better lot of trees, had they all, at the proper time, been budded on seedling stocks, instead of having been root-grafted. I do not dispute the facts stated by the advocates of exclusive budding, but believe that the inferences they draw from those facts are altogether wrong. There are certain varieties of the Apple, which, planted on a rich soil, are very slow in coming to a bearing state. Take the *Yellow Bellflower*, for instance; it will take ten to fourteen years to come into a bearing condition, and in that time it would spread out into an enormous tree, whether it be root-grafted or placed upon a seedling stock, of the same or greater vigor than itself. But place this same *Bellflower* upon a rigid, slow growing seedling stock, and it will produce an exceedingly large crop three to six years sooner. And so it is with all the vigorous fast growing varieties; they are slow in coming to a bearing condition, unless dwarfed on a crabbed seedling, which checks their vigor, and causes them to throw out fruit buds. These dwarfed trees, however, are not so valuable as those which grow without any check, and become large before bearing. I have sixteen *Michael Henry Pippins* which are on rather rigid stocks, which have, up to this time, produced an average of fourteen bushels of apples in three bearing seasons. I have also two others on very strong stocks which have not produced more than from six to seven bushels each. But it is probable that the two large trees will, in the course of twenty years, produce twice as much as any two of the others."

THE NEW ROSES.—*Fortune's Double Yellow* is a dull buff, with a tinge of purple; flowers small, semi-double, and loose; about as hardy as a Tea Rose—at the best, it falls far below expectation. We see the *Philadelphia Florist* has republished VAN HOUTTE's plate from the *Flora des Serres*. During the past season, its reputation has somewhat recovered by a more skillful and successful culture. The flowers are produced on wood of the previous year's growth, and therefore the shoots, instead of being cut back, must be preserved and merely thinned out, as is done with the *Persian Yellow*, *Banksias*, and others of similar habits of flowering.

The *Augusta*, originated from seed by the Hon. JAMES MATHEWS, of Coshocton, Ohio, and sent out last spring by Messrs. THORP, SMITH, HANCHETT & Co., of Syracuse, has flowered finely in our own grounds. It is in habit similar to *Solfatare;* the flowers a pale yellow, rather deeper than *Solfatare*, and more fragrant; the center petals are small, which very much lessens the fullness and perfection of the flower; it grows and blooms freely, and is altogether a desirable variety, but will not prove to be, as some seem to expect, a "*hardy climbing yellow Rose.*" It belongs to the same class as *Chromatella*, *Solfatare*, and *Lamarque*, and will prove to he about as hardy as these.

Paul's Victoria, announced some two years ago as a superb "*White La Reine*," proves to be a large and very beautiful Rose of a pale flesh color, with a rosy tint in the center,

resembling *Souvenir de la Malmaison;* this is as near as it comes to *white.* The habit is vigorous; foliage large and luxuriant; the best, no doubt, of its color.

Caroline de Sausal resembles the preceding very much, and is nearly as good.

Robert Burns, described as "a climbing perpetual," has nothing remarkable in color, being a bright carmine, with a shade of purple; a vigorous grower; will make a fine pillar Rose.

Coup de Hebé and *Charles Duval* are two first-rate Hybrid Bourbon Roses; both of a deep pink; large and full, like *La Reine;* both are successful show varieties.

Paul Ricant, another of the same class of a brilliant crimson, coming nearly up in color to *Geant des Battailles.*

Madam Lamoriciere—fleshy pink, and of the most perfect form.

Baron Hallez—rosy crimson.

Madam Trudeaux—light crimson.

Madam Fremion—rosy carmine.

The three last approach one another in color, and all are fine.

Madam Pepin, *Gen. Negrier*, and *Sydonie*, are charming varieties of a rosy blush, very delicate, and very sweet. The seven last named are Remontant, or "Hybrid Perpetual."

Feast's King of the Prairie Rose.—Mr. Feast writes us that he has at length succeeded in obtaining a variety of the *Prairie* Rose, as fragrant as the old *Damask* Rose, larger than the *Queen*, and of a bright peach color. This must be an acquisition, as admirers of this useful family of Roses have always regretted the absence of fragrance. Not long ago we sent some *Prairie* Roses to a very well known literary gentleman on the Hudson, and he wrote us back he did not want them, as he would not have a Rose without fragrance on his grounds. Mr. Feast sends us the following description of the "*King:*"

"This is the third season of flowering. Sweet-scented, like the old *Damask* Rose. The form is cup-shape. Color bright peach, and darker toward the center. This is before it is fully open. The bud is long-conical in shape, and very pretty—together with the first opening of the flower it makes a beautiful appearance. As it opens it shows two or three small petals of a lighter color than the outer ones; these being slightly curved back, gives to the Rose a globular shape until fully expanded. There is a delicacy in the shading of the petals I have not seen in any of the tribe. The size of the flower when fully expanded, is much larger than the *Queen.* The clusters are large—from twenty to twenty-six in one head. Each flower has twenty-five perfect petals, with smaller ones in the center. The petals are thick and fleshy. The habit of the plant is strong, and a free grower. Foliage large and dark green. Perfectly hardy. Flowers ten days before the *Queen.*"

Raspberries.—The experience of the present season convinces us that the *Red Antwerp*, so extensively grown for market in Orange county, N. Y., is different from the true *Red Antwerp.* It is much more conical, the grains smaller and more compact, giving greater firmness to the berries, and rendering them better adapted to market purposes. The canes of the Orange county variety are more slender and more spiny, and the leaves are not so large or so heavy as those of the true variety. It is cultivated around Toronto, and we have in some cases received it from England. The genuine *Antwerp* is grown here by many Dutch families, who brought it directly from Holland. The *Fastolff* is a superb fruit, the largest we have seen; a strong grower, hardy, and productive. Dr. Brinkle's *Orange*, we understand, promises to be valuable for market. If it be so in firmness, its color will make it very popular.

A CHERRY FESTIVAL.—On the 22d of June last Mr. F. R. ELLIOT, of Cleveland, Ohio, invited his pomological friends to a *Cherry Festival*, on which occasion the famous seedling varieties raised by Dr. J. P. KIRTLAND were to be served up before the critical guests. The holding of a local horticultural exhibition, and some other circumstances, deprived us of the great pleasure of attending, but a private note from one of the guests has given us a lively account of the proceedings. A large number were in attendance, chiefly from the west, and spent two days and one evening, not only in tasting cherries, and discussing their merits, but in various other modes of enjoyment, which had been liberally provided for them. Dr. KENNICOTT has kindly furnished us the following off-hand notes, showing how the affair was conducted, and what the results were:

FRIEND BARRY: We all regretted your absence at the CHERRY FESTIVAL, but your excuse was a sufficient one. We *are* bound to attend to the affairs of our local societies in preference to distant interests; and yet, as the editor of our *Horticulturist*, you ought to have been excused by your association, for of all others you should have seen and been enabled to give a just and reliable account of the great show of Cherries, to which we were introduced by Professor KIRTLAND and F. R. ELLIOTT.

Your letter to Mr. ELLIOTT was handed to me, and I would gladly comply with his request to act for him in giving you "some account of the matter;" but a week's absence leaves little leisure from needful business and correspondence, and I had to prepare matter for my own paper forthwith, and any thing for yours must go this mail, or reach you too late for "August number."

It is well known to the old readers of the *Horticulturist*, that Dr. KIRTLAND has been long engaged in testing seedling Cherries from the old *Yellow Spanish*, fertilized by *Black Tartarian*, *American Amber*, *May Duke*, and *Arch Duke*, and, possibly, other varieties; though these sorts grew beside the tree of *Yellow Spanish* that furnished the seeds of these KIRTLAND Cherries, (which F. R. ELLIOTT has occasionly described,) and many others, not yet brought into notice on account of the great reluctance of the Doctor to permit a fruit, not fully equal to the best, to get abroad before the produce of years has given repeated testimony in favor of the claims of the new candidate for notice.

The way the Doctor managed with us showed both sensitiveness and confidence. Mr. ELLIOTT took us all up to Rockport before showing us the Cherries of his own planting; and there we found Dr. KIRTLAND, prepared to get a candid opinion from every one, not capable of determining the identity of a variety, when placed along side of others the most nearly resembling it. Some twenty or thirty dishes of Cherries were arranged, designated by numbers alone; and as the variety passed round, we were required to enter the number, and write down our opinions against it; and at the conclusion of this examination, a number was called and we read off our remarks in succession—no one being excused—and *then* Dr. KIRTLAND announced the *name* of the Cherry, and gave its history; and though (as we knew) there were some half dozen sorts of the best old Cherries artfully arranged, so as to escape detection if possible, yet, in nearly every instance, the KIRTLAND SEEDLINGS *were the ones selected as* "BEST!" And what must have pleased the old Doctor *better* than this unbiased testimony in favor of his Cherries, we all selected as *the* best those sorts which are most esteemed by himself and F. R. ELLIOTT.

In my blind notes, *Mammoth* and *Delicate* are set down as the very best; but the majority rated about as follows: Of the reds—*Gov. Wood*, *Delicate*, *Kirtland's Mary*, and *Rockport Bigarreau*; *Belle d'Choisy* being ranked as "best" in one instance only. Of the blacks—*Black Hawk* and *Osceola* were entirely ahead of *any* of the old blacks. The *Doctor*, and *Logan*, and also *Jockosott*, are down on my list: the "*Doctor*" is a very sweet Cherry, and all the blacks are, in some way, superior; but, unfortunately, very few of them were ripe; and so of some of the reds. And, by the way, there are some forty varieties in all, not one of which but is more worthy of cultivation than a large portion of the old world varieties.

And now, for the great point of worth, and the wonder of all—except my first favorite, the *Mammoth*, which is a poor bearer, and possibly two or three others, not yet before the public—all of these thirty or forty seedlings are the most prolific of Cherries, beating the old sorts out of all comparison, in many instances, and beating them sufficiently in every case. The limbs were literally massed with fruit—and *such* fruit! Oh! you *should* have been there, friend BARRY, for—although you are not in the habit of going off in ecstasies over every new thing—you *are* capable of appreciating excellence, and giving others just and sensible notions of the worthies of the day—among which I am inclined to rank the KIRTLAND Cherries pretty near the head of the list in pomology. I feel grateful to friend ELLIOTT for the chance of seeing (and eating to repletion) these delicous productions of the West, and I assure him—as I now do you—that should his forthcoming book not go beyond THE CHERRIES, even, it can not fail of interesting pomologists, the Union over.

SAVING SEEDS—VITALITY OF SEEDS, &C.—A horticultural friend in Canada writes us a pleasant letter, from which we extract the following hints. They may be useful to some one.

"The early part of my life was passed in wandering about the earth. My boyhood was devoted to the military profession, under the 'Iron Duke,' in Spain and France, and you know the old English observation—'if a lad has no brains, put him into the army.' However, about 1826 I retired on half-pay, domiciled on the banks of the Detroit, and took, by way of passing time, to gardening and fruit-growing, of which I knew about as much as the babe just born. I found it necesary, therefore, to keep a journal and register the results of my blunders as a warning; they *do* afford me amusement sometimes. I had been for years in the habit of selecting my seed—that is, for instance: I have, during that period, never sown a pea that was the produce of a pod containing less than six or seven in it. By this means I have, as I think, improved them. I reserve the most promising rows for seed the ensuing year, and pick off for eating all pods that seem defective in number from these rows; of course, this would be too much work except for a garden. From carrots, parsnips, &c., when put out for seed, I pinch off all side blossoms, leaving only those on the main stem, abstracting even from these last the side blossoms, and, in my opinion, the seed is very much improved.

The vitality of seed I find of greater duration than is usually supposed; but then, it must be saved with some degree of care. To prevent any mistake, I always label the year in which the seed is gathered. On referring to my book, I observe that I sowed in 1851 double curled Parsley and Asparagus Beans, the produce of 1845; and on the 24th of May, 1850, yellow turnip Radish of 1839. On the 25th of August, 1851, I sowed black Spanish Radish seed gathered in 1838. On the 30th of the same month these Radishes appeared above ground, and there is this observation in the margin: 'The Radishes of 1838 grew very well.' This season was very dry, but the Radishes were watered." C. E.—*Sandwich, county of Essex, C. W.*

A DESTRUCTIVE INSECT.—We find in all the eastern journals accounts of a caterpillar, or worm, that has rarely before made its appearance. It is much more destructive and difficult to destroy than the common caterpillar. A correspondent of the *Tribune*, writing from Maine, says:

"Fears are entertained that the crop of apples, and other fruit which ripens late in the summer and in the autumn, will be entirely cut off, from the ravages of bugs and caterpillars of an entirely new kind. These caterpillars infest fruit trees, and even forest trees in swarms, feeding upon the leaves, and in some instances almost riddling the trees of the leaves, which must injure them very much, if it does not destroy them. I have inquired of the farmers here about these caterpillars, and no one has ever seen anything of the kind, though perhaps others have. Each caterpillar, unlike those commonly infesting Apple trees, attacks a leaf by himself; and when the tree is struck, they will suddenly drop two or three feet from every part of the tree in thousands, there

hang by lines apparently of their own spinning. These caterpillars are from half an inch to three-quarters of an inch in length, and seem very spiteful in defending their rights: a person can hardly go into an orchard without finding himself becoming nervous from a crawling sensation. There is also a bug attacking the Apple trees, resembling the so-called lightning bug; in some orchards I have found from two to a half dozen of these upon every apple that I examined, and they eat into heart of the apple so as to destroy it."

The *Maine Farmer* says:

"We have just done battling the common caterpillar, in the orchards, and begun to think that the apples had nothing more to do now than to grow and get ripe for our use as soon as they could, when lo! and behold! another little great scourge has come in large numbers in the shape of a slender worm about half an inch long. This little nuisance attaches itself to the leaves, and to the apples, and all about the buds, eating away the soft or pulpy part of the leaves, leaving the hard ribs or woody part. It is somewhat striped, with alternate greenish-white and dark stripes. If you strike or jar the limbs, they will spin down and hang suspended by a fine web. They are doing much mischief. They somewhat resemble the canker worm, but they are not that insect. We have never seen the veritable canker worm, in Maine, but if we recollect right, the canker worm is a 'span worm'—that is, moves by pushing out one end at a time, and then drawing the other end up to it, thereby humping up its body in the shape of a bow; but this fellow goes straight along, at pretty good speed. We do not know how to get clear of it. If shook off, and the webs broken by sweeping a pole or stick through the air, between the worm and the limb, they will be thrown to the ground, but whether they know enough to ascend the tree again, we have not ascertained.

"P. S. Since the above was put in type, we have received a communication from O. S. H., of Limerick, which gives a description of the same worm, infesting the orchards in his neighborhood."

The *Connecticut Valley Farm* says:

"Insects seem to be more numerous and voracious than they ordinarily are; and the fruit may be regarded as yet in doubt. How far the depredations of the worm tribe have gone, can not be ascertained at present. The prospect for fruit is far from being as favorable as it was a month ago. We never have known so large a visitation of 'insects injurious to vegetation' in any former year, with the exception of the rose-bug, which, this year, is wonderfully modest and retiring."

This insect has, we believe, appeared in large numbers in some of the western counties of this State, and destroyed the apple crop. We have seen a very few in our own grounds, but they have done no injury of any consequence. Prof. HARRIS informs us that it is not, as many seem to suppose, a *new* insect—that it is described as "*the palmer worm*" in Dr. DEANE'S *New England Farmer*, and an account given of its ravages in Cumberland county, Me., in 1791. We have not this work to refer to.

OUR ENGRAVINGS OF FRUIT, &c.—It has been our intention to give engravings of fruit taken from nature, and not merely copies of old engravings. Taking charge of the *Horticulturist* on the first of January last, we have, of course, been unable to procure specimens of the summer fruits, and therefore could not give that variety which would have been desirable. We are now, however, taking drawings of the different fruits as they ripen, and shall hereafter make this feature of our Journal more interesting. In the September number we shall give a plate of *McAvoy's Superior* strawberry, and in the succeeding number Prof. KIRTLAND'S fine seedling cherry, *Governor Wood*.

THE favors of several correspondents, received too late for the present number, will receive attention in our next.

If any of the readers of the *Horticulturist*, or any of their friends, desire to purchase a fine country residence, in which fruit-culture is the principal feature, we refer them to the advertisement of H. W. S. Cleveland, Esq., of Burlington, N. J. This gentleman is well known to our readers as one of the most zealous and intelligent amateur horticulturists in the country, and for twelve years past he has been improving and planting his grounds. Very seldom such a place comes into market, and we are sure that at the present time a purchaser will not long be wanting.

A very palpable Error.—A leading agricultural journal in the course of a recent article on Budding, says: "Several sorts of stocks are used for the Cherry—the *Doucian*, *Mahaleb*, and *Paradise* are the most suitable." It is almost incredible that any man who writes upon horticulture should make such a blunder. The *Doucian* and *Paradise* are stocks for the Apple, and no man since the creation has ever done such a thing as bud Cherries upon them.

Your correspondent, A. D. G., in your April number, by some means was greatly misinformed respecting several of the trees and plants of Florida. He strangely enough informs your readers that "in the latter part of February, and early in March, trees of all kinds put forth fresh leaves," "and the towering Magnolia (*grandiflora*) takes on new adornments of thick, glossy leaves, and large white flowers. Soon the scarlet blossoms of the Pomegranate appear, and the little brown flowers of the long trailing moss." Who, with any pretensions to understand such subjects, could have undertaken to state that the *Magnolia grandiflora* put forth new leaves and blossoms in February or March, or have imagined the Black Walnut (*Juglans nigra*), or the May Hickory, a very common variety of *Carya*, even put on their spring garments before April, it is somewhat difficult to conceive. As to the *brown* flowers of the long moss (*Tillandsia Usneoides*), whether large or small, the existence of them is here unheard of. That plant is now just about to blossom, though I have not yet seen any of the flowers open. The blossoms are very minute, but slightly conspicuous, of a yellowish pea-green, three-petaled, and pleasantly odorous when several of them are collected in a bouquet. The whole plant is quite curious, and in many respects interesting. Seen through a microscope, the dull, gray uniformity of its color gives place to several shades, the most prominent of which is a delicate purple. It is entirely aerial, depending solely on the atmosphere for subsistence. The seed vessel bears some resemblance to that of mustard, and to each minute seed is attached an egret of a delicate silken texture, by which it is supported in the air and borne about by the breeze.

Among the uses of this singular vegetable, one of the most common is to form the stuffing of mattresses—though for this purpose it may be regarded as a rather coarse material. It is extensively used, and probably far the greater number of beds in our fashionable hotels are formed of this material. Saddles are frequently stuffed with it. It is eaten freely by cattle and sheep, and probably by some wild animals.

So far is the *Magnolia grandiflora* from flowering in February, or March either, that it is still in blossom while I write (June 3). Other varieties of that splendid genus, particularly the deciduous ones, in many if not most cases, put forth their flowers in April. One of these I have not seen described in any work on botany. The tree seldoms becomes very large, though too large to be designated as a shrub. The leaves are large, though less than those of the *Macrophylla*, and in shape resemble the leaves of the aquatic plant called *Sagattaria*. Perhaps it might not improperly be named *Magnolia sagittifolia*. The leaves and flowers appear together, and both seem to wear an appearance of fragility and delicacy. At this time, the cone, if it may be so called, seems to have arrived at nearly its full size, and the whole tree presents an image of luxuriant verdure and freshness.

Permit me, before closing this rambling paper, to name to you another production of this section which I have not seen except in this vicinity. It evidently is an Ash, yet unlike any other variety of that tree I have seen or seen described. No specimen that I have seen exceeded fifteen feet in height. Its leaves are trifoliate, and like other species of the genus the plant is dicœious. The seeds are in clusters, something like umbels; and instead of a wing extending in one direction like a spatula, the wing encircles the seed in nearly a circle. When fully clothed with foliage and seed, the trees are very beautiful. I imagine it would form a beautiful shrub for the lawn. Should you find no description and name for it, you may understand me as suggesting either *Fraxinus frutex*, or *Fraxinus cyclocarpa*. Should life and health be spared, I propose to forward you some of the seeds in autumn. A. B. Lawrence.—*Laurel Hill, La.*

Answers to Correspondents.

Inclosed I send you specimens of an insect which has anoyed me exceedingly; also an apple shoot, showing the mode in which it operates. As you will observe, it is a species of beetle, very much resembling the Curculio, yet I think it distinct from the Curculio. I find them principally on my Apple and Pear trees, occasionally on the Plum and Cherry. They appear to seek the base of a young shoot, cutting out a piece to the center, intercepting the flow of the sap, upon which they must subsist, consequently the shoot soon dies. Thus some trees planted this spring are nearly destroyed—every shoot was cut off, and nearly as fast as they put forth.

Will you tell me something of the history of this beetle; in what other form to look for it; and the best mode of getting rid of it? Since first I discovered the depredators—now some three weeks—I have endeavored to visit all newly planted trees daily, and others twice a week. By giving them a sudden jar, the insects fall to the ground, and are easily destroyed. In spite of my endeavors to exterminate the race, I constantly discover fresh innovations of the industrious pests, which I think must carry on their busy performances under cover of the night, while I am quietly sleeping.

Allow me to suggest as an interesting and useful department to horticulturists, that a portion of your pages be devoted to the description and history of the different insects obnoxious to plants, trees, and shrubs, accompanied, when practicable, by suitable illustrative drawings. A. G. Hanford—*Waukesha, Wis.*

A very good suggestion, which we shall be happy to comply with as far as possible.

We have made some inquiry of Prof. Harris respecting this weevil, and he has kindly given us the following information:

"The weevil sent you from Wisconsin and forwarded to me, is the *Curculio noveboracensis* of Foster, now called *Ithycerus noveboracensis*. It is not an uncommon insect in Massachusetts, and I have seen specimens from the State of New York and Ohio. Here it may be obtained by shaking small Oak and Maple trees in the morning, during the month of June; the insects then drop to the ground, without attempting to fly or escape. Nothing further respecting their habits is known to me. We have yet to learn where they lay their eggs, and where their young live and undergo their transformations. If they are common, and destructive as represented, perhaps your correspondent then may be able to pursue their history through their various states from the egg to the adult weevil."

How is the name *Syringa* applicable to *Philadelphus*, the former belonging to natural order *Oleaceæ*, and the latter belonging to natural order *Saxifragaceæ*, the same order to which belongs the family *Deutzia*? A SUBSCRIBER.—*Rochester.*

The *Philadelphus* was formerly called *Syringa* by some old botanists, and it is yet commonly so called without any propriety. The English name of "Pipe tree" was given to both on account of Turkish pipes being made from them, and they were in this way confounded. The *Deutzia* is closely allied to the *Philadelphus*. *Syringa* should only be applied to the Lilacs.

WILL you please inform me whether there is any good kind of Grape other than the *Isabella* and *Catawba*, that will grow in our cold northern climate? Also, which is the best time to set them out—fall or spring? A READER.—*New Athens, Pa.*

The *Clinton* and *Diana*. Plant early as possible in the spring.

Horticultural Societies.

PENNSYLVANIA HORTICULTURAL SOCIETY.—The twenty-fifth Exhibition of this association will be held on Wednesday, Thursday, and Friday, the 21st, 22d and 23d, of September, in the Philadelphia Museum, corner of Ninth and George streets. A complete premium list, amounting to about $400 is offered. We select the following items:

PLANTS—from a private collection—in pots not over sixteen inches in diameter:

For the best twenty plants, at least seven of them to be in bloom, from a private collection, a prize of fifteen dollars.

With this prize it is proposed to present a Silver pitcher, of two hundred dollars value, to be raised by private subscription and donated to the Society, and to be held by the owner of the successful collection for one year, and to be yearly competed for—the donors' and victors' names to be engraved on the Pitcher.

Plants from a commercial grower.—For the best twenty plants, at least one-half of them to be in bloom, from commercial growers only, a Silver cup of fifteen dollars.

Competition for premiums before this Society is *free* and open to *all* persons from any section of the United States.

AD INTERIM REPORT June 20, 1853.—The Fruit Committee, in presenting their usual monthly ad interim report, would remind the Society that, at the stated meeting of last month, specimens of two new grapes (one a seedling of the *Black Hamburg*, the other the *Musqué Verdel*), were exhibited by the originator, Mr. J. FISK ALLEN, of Salem, Mass. Wishing to have an opportunity of carefully examining these two varieties, the committee only noticed them cursorily in their regular report for that evening, with a promise of submitting a more detailed pomological description of them in their June ad interim report. The specimens have been winter forced, and being ripe in March, were kept too long after their maturity to be in their greatest perfection.

Allen's Seedling Black Hamburg.—The bunch exhibited was not very large, though it is probable there will be an improvement in this respect. Berry large, black, oval; seed grey; flesh solid, and possessing much of the character of the *Black Hamburg;* quality "very good."

Masqué Verdel.—This is a natural cross between the *Grizzly Frontignan* and the *Verdelhoe*, the wine grape of Madeira. Bunch large, shouldered, loose; berry rather small, about half an inch in diameter, round, pale red; seed light cinnamon color; flavor rich, saccharine, highly purfumed; quality "best;" said to be as early as the *Black July* and the *Pitmaston.*

Mr. ALLEN deserves the thanks of Pomologists for having originated two varieties of grapes of such excellence; and being of native origin, they may prove, for out-door culture, better suited to the requirements of our climate than their transatlantic parents.

From H. W. S. CLEVELAND, of Burlington, N. J.—Fine specimens of strawberries without a name. Fruit large; roundish, sometimes ovate; dark red; seed of the same color, set in superficial depressions; calyx reflected; stamens persistent; flesh yellowish-white, saccharine, high flavored; quality "best." The fruit and leaf clearly indicate the variety to be a Hautbois—probably the *Lafayette*. It is to be regretted that this luscious class of strawberries is so little cultivated.

From Mr. STUART.—Beautiful specimens of strawberries—*Hovey's Seedling*, of last year's planting; some nearly four inches in circumference; quality "very good."

From Mr. GERHARD SCHMITZ, of Philadelphia.—Fine specimens of two of his seedling strawberries:

1. The *Pennsylvania*.—This variety is a seedling of the *Moyamensing*, and was exhibited by Mr. SCHMITZ last season for the first time. Fruit large; broadly conical; dark crimson; seed crimson, and when shaded, yellow, set in depressions not very deep, with roundish intervals; flesh red; flavor fine; quality "best;" sexual character pistillate; leaf large, deep green, serratures crenate. The committee award a premium of five dollars to this variety, as the best new American seedling strawberry of superior quality, after two years' trial.

2. *Schmitz's No.* 3.—A seedling of the *Washington*, exhibited now for the first time. Fruit large; roundish ovate, sometimes inclining to conical; light crimson; seed crimson, often yellow, set in rather deep indentations, with intervals somewhat ridged; flesh pale red; flavor pleasant; quality "very good;" sexual character pistillate; leaf large, light green.

From CALEB COPE, Esq.—Specimens of four varieties of strawberries:

1. *McAvoy's Superior*.—This variety originated with Mr. McAVOY, of Cincinnati, and was formerly known as his No. 12. In May, 1851, it received a premium of one hundred dollars from the Cincinnati Horticultural Society. Mr. COPE's specimens were of great size and beauty, some of them measuring five and a half inches in circumference. Fruit very large; roundish ovate, occasionally slightly necked; deep brilliant crimson; seed crimson, sometimes yellow, set in indentation not deep, except in the largest specimens, when the intervals are also somewhat ridged; flesh red; flavor exquisitely fine; quality "best;" sexual character pistillate.

2. *McAvoy's No.* 1.—Large; roundish; deep scarlet; light crimson seed; indentations rather deep, intervals not ridged; flesh whitish, partly stained with red; flavor agreeable; quality "good," perhaps "very good;" sexual character pistillate. An abundant bearer.

3. *McAvoy's Extra Red*.—Large; roundish; scarlet; seed red, sometimes yellowish; indentations tolerably deep, intervals somewhat rounded; flesh yellowish, slightly stained; sub-acid flavor; quality only "good;" pistillate; extraordinarily productive.

4. *Longworth's Prolific*.—This fine variety originated with Mr. SCHNEICKE, of Cincinnati, and was formerly known as *Schneicke's Hermaphrodite*. Very large; roundish ovate; brilliant crimson; seed of the same color, sometimes yellowish, set in rather deep indentations with rounded intervals; flesh red; flavor fine; quality "very good." A variety of great excellence; perfect in its sexual organization, and remarkably productive, a rare circumstance with staminate varieties of large size.

From Mr. ROBERT BUIST.—Fine specimens of two varieties of strawberries—*McAvoy's Superior* and *McAvoy's No.* 1; described above.

From Mr. HENRY A. DREER.—A dish of the *Moyamensing* strawberry. This fine variety originated with Mr. GERHARD SCHMITZ of this city, and took the premium offered by the Pennsylvania Horticultural Society for the best seedling strawberry exhibited in 1848. Fruit rather large; roundish-conical; deep crimson; seed crimson, set in rather deep depressions, with rounded intervals; flesh red; flavor very fine; quality "best;" sexual character pistillate; leaf large, with crenate serratures.

From Dr. E. W. CARPENTER, Lancaster.—The *Triumph of Cumberland* cherry, a native of

Cumberland county, Penn. Specimens fine. Large; obtuse heart-shaped, sometimes roundish, compressed at the sides; deep crimson, almost purple when fully ripe; suture indistinct; stem rather long, slender, inserted in a broad, open cavity; apex slightly depressed; stone roundish-oval, compressed; flesh rather solid, red, slightly adherent to the stone; flavor fine; quality "best;" period of maturity about the middle of June.

June Exhibition of the Genesee Valley Horticultural Society.—Report of the Committee on Flowers.—Owing to the exceeding hot and dry weather which was prevailing at the time of, and for ten days prior to, the exhibition, the contributions to this department were not as good as they would have been if the season had been more favorable. Although the contributors had much to contend against, it was one of the finest shows, particularly of Roses, ever held by the Society. Of the amateurs J. A. Eastman, Esq., contributed 66 varieties of Roses; A. Frost & Co., among the Nurserymen. 275 varieties of the rose; Ellwanger & Barry, 197 sorts; Samuel Moulson, 80 varieties; Wm. King, 132 varieties; J. J. Thomas, Macedon, 60 varieties.

Premiums Awarded to Amateurs.—*Pansies* in basket, best display, Sarah A. Moulson, $3.

Roses—Best collection classed and named, J. A. Eastman, Esq., diploma.

Verbenas—12 varieties, in pots, finely trained on horizontal trellises, J. Salter, gardener to J. W. Bissell, $3.

Fuchsias—Best collection correctly named, J. Salter, gar. to J. W. Bissell, $5.

Pelargoneums—7 varieties of seedlings, very fine, and some of them much better than the older sorts, Josiah. Salter, gar. to J. W. Bissell, diploma.

Table boquets—Best pair, Lillie Greenough and Julia Miller, $3.

Best Floral Ornament—A large pyramid of very fine flowers, to J. C. McNab, gar. to John Greig, Esq., Canandaigua, $3. Second best to Miss Hooker, $2.

Miss Sarah A. Moulson, a beautiful mound of roses, $2.

Miss Adams exhibited two exquisite moss baskets, filled with roses, which were much admired.

Mr. Robert Hardy presented a beautiful basket ornamented with roses.

Two floral ornaments were very creditable to the exhibitor, Miss McGarry.

Quite a novelty was placed upon the table by H. G. Warner, Esq., in the way of an *Amaryllis*, taken from its native soil by Mr. Warner, on the 3d of June, in the province of New Grenada.

Nurserymen.—*Green-house Plants*—Best collection, A. Frost & Co., diploma; 2d do, Ellwanger & Barry, $8.

Boquets—Best two table, John Donnellan and nephews, $3; 2d do, A. Frost & Co., $2. Best two round hand, C. J. Ryan, $2; 2d do, Ellwanger & Barry, $1. Best two flat hand, A. Frost & Co., $2.

Roses—Best 25 varieties, Wm. King, $5; 2d do, A. Frost & Co., $3. Best collection, Ellwanger & Barry, diploma; 2d do, Samuel Moulson, $5. Best 18 new perpetual and hybrid perpetuals, A. Frost & Co., $6.

Awarded John J. Thomas, for a fine display of roses, and other cut flowers, a diploma.

A very fine floral design three feet high, in the form of a vase, made of moss and choice selection of flowers, A. Frost & Co., a diploma. They also presented a bed, literally covered with roses, that attracted much attention for its novelty.

Wm. King also had in flower a *Cactus*, and a beautiful *Amaryllis Johnsonii*, of the former species.

Ellwanger & Barry had a plant of the variety *Speciosissima*, with beautiful crimson flowers.

Awarded a diploma to C. F. Van Dorn for a faithful representation of the *Calla Ethiopica*, and a painting of grapes, on canvass.

Report of Fruit Committee.—The fruit offered consisted principally of strawberries. Of these the display was very good, although the warm and dry weather that preceded the exhibition injured the size and appearance of the specimens, and prevented many from exhibiting who have

heretofore contributed valuable collections. Of varieties not exhibited here before, the most interesting were *McAvoy's Superior*, which promises to be a very productive and valuable variety; a seedling of Messrs. BISSELL & HOOKER, of fine flavor, and quite early, ripening with the early scarlet; *Walker's Seedling*, a very dark crimson, conical fruit, of good quality, and very productive.

AMATEUR CONTRIBUTORS.—T. A. NEWTON, for M. SOUTHWORTH, of Penfield, 2 varieties *Burr's New Pine* and *Hovey's Seedling*. A. PINNEY, Esq., of Clarkson, 5 varieties. R. G. PARDEE, of Geneva, 18 varieties in separate dishes, and a mixed dish, containing specimens of some 40 or 50 sorts.

NURSERYMEN.—Messrs. H. HOOKER & Co., 3 varieties; Messrs. FROST & Co., 2 varieties; ELLWANGER & BARRY, 30 varieties.

PREMIUMS AWARDED—TO AMATEURS.—For the best quart, to T. A. NEWTON, for *Burr's New Pine;* for greatest number of varieties, and best grown, to R. G. PARDEE.

TO NURSERYMEN.—For the best quart, to ELLWANGER & BARRY, for the *Genesee;* for the second best, to Messrs. FROST & Co., for *Hovey's Seedling;* for the greatest number of varieties and best grown, to ELLWANGER & BARRY.

Of Cherries, few were presented, being too late for the early varieties, and too early for the late ones. ELLWANGER & BARRY exhibited a dish each of *Belle of Orleans, Early Purple Guigne Bauman's May*, and *Early White Heart*, besides a few specimens of *Coe's Transparent*. Mr. POWIS, of Greece, a dish of *Early Purple Guigne*. Mr. LOVECRAFT, a branch of fine specimens, supposed to be *Bauman's May*.

The committee awarded a premium to the *Belle of Orleans*, being beautiful specimens af a fine new variety.

REPORT OF VEGETABLE COMMITTEE.—The show of Vegetables was quite small, it being too late for the earlier vegetables grown under glass.

JOHN DONNELLAN presented 4 heads of Lettuce, large and fine, and the committee would have awarded him the premium had there been the requisite number.

Premiums are awarded as follows:

To JOHN DONNELLAN, for the best three bunches of Radishes.

Cucumbers—C. F. CROSSMAN, 1st, and JOHN DONNELLAN, 2d premium.

Fine Rhubarb was shown by J. DONNELLAN and C. F. CROSSMAN—1st premium to JOHN DONNELLAN, 2d to C. F. CROSSMAN.

GEO. W. HART exhibited some very fine new Potatoes (*Early June*). They were full grown and excellent, showing skill and care in their cultivation. The committee cheerfully award Mr. HART the first premium.

Mr. MCNAB, gar. to JOHN GREIG, of Canandaigua, exhibited three Cucumbers of extraordinary size, measuring some eighteen inches in length. They were of the black spine variety, and are really excellent, though many, from their appearance, were disposed to doubt their good qualities.

HORTICULTURAL FAIR AT AUBURN.—Horticultural exhibitions in June, so as to include Roses, Strawberries, &c., &c., appear to be rapidly on the increase. Cayuga county has long been distinguished for her devotion to fruits and flowers. Very much of this is doubtless owing to that truly distinguished and accurate pomologist and horticulturist, DAVID THOMAS, who has long been a resident of that county.

For the first time that county held a June exhibition on the 17th, and, I am happy to say, from personal observation, that in every respect it was worthy of her sons and daughters. Roses of the rarest varieties, finest specimens, and in the greatest profusion, graced the exhibition. Among the exhibitors I noticed the Messrs. MORGANS, Dr. THOMPSON, and HENRY WELLS, Esq., of Aurora; Mrs. E. THROOP MARTIN, of Willow Brook; Messrs. GRAVES, FREEOFF, S. A. GOODWIN, JOHN H. CHEDELL, H. T. DICKINSON, H. R. POMROY, O. W. WHEELER, Mrs. BUTLER SHELDON, and Mrs. S. BLATCHFORD, of Auburn. Their tables exhibited the largest and best collection of boquets I

have ever seen at one show. One gentleman, Mr. FREEOFF, placed twenty-nine handsome boquets on the tables, besides a full exhibition of seventy-five named varieties of Roses, and other flowers in proportion, for which he took the first premium. Another gentleman, Mr. S. S. GRAVES, I was told, cut one thousand specimens of Roses for the exhibition, and really fine ones these were, too. Messrs. THORP, SMITH, HANCHETT & Co., of Syracuse, added decidedly to the exhibition from their fine stock.

There was also a very handsome display of strawberries, of such varieties as *McAvoy's Superior, McAvoy's Extra Red, Walker's Seedling, Crescent Seedling, Moyamensing Pine, Monroe Scarlet, Genesee Seedling, Hovey's Seedling, Burr's New Pine, Black Prince, Lizzy Randolph, Jenny's Seedling, Rival Hudson, Crimson Cone, Columbus, Boston Pine*, &c.; but the only individuals who exhibited more than four varieties each were P. R. FREEOFF, of Auburn, who took the first premium, and R. G. PARDEE, who, residing out of the county, was not in competition. The exhibition also comprised a fine show of Vegetables, both grown under glass and in the open air.

It was held at Standford Hall, one of the finest in the whole country for such an exhibition, and the fixtures and arrangements for the fair did great credit to their energetic committee. On the whole, the exhibition was in the highest degree satisfactory to the citizens of Auburn, and we bespeak for them another year a handsome delegation of floral and horticultural friends from abroad, for this infant society has given in this its first exhibition a distinct proof of what it can do when it gets into thorough working order. R. G. P.

GENEVA JUNE HORTICULTURAL EXHIBITION.—Geneva held a very creditable exhibition on the 23d for the first time. One great reason why it succeeded so greatly to the gratification of all, was, doubtless, owing to the fact that numerous ladies, of the highest standing, wealth, and resources, most freely bestowed their time, taste, and produce of their conservatories, and fine gardens, to get it up and sustain it. As a consequence, the boquets and arrangements of fine flowers were almost unequalled. Those exhibited by Mrs. GIDEON LEE, Mrs. T. D. BURRALL, Mrs. W. N. and L. CLARK, Mrs. BRADFORD, Mrs. SCOTT, and Mrs. SUYDAM, not to mention others, attracted marked attention. But to me, one of the most attractive boquets I have yet seen on this or any exhibition, was one exclusively of wild flowers, gotten up in the best manner by J. M. BRADFORD, Esq.; certainly, some very rare and curious specimens graced the boquet.

So many exhibited handsome Roses, that I hardly dare name any of the exhibitors. Captain DAKIN's Roses, Strawberries, &c., were very fine, and the same was the case with his next door neighbor, Mr. SUYDAM. Mrs. BURRALL, of course, had a large as well as select collection of Roses and other flowers.

The exhibition of Strawberries far surpassed any I have seen this season. Over one hundred dishes of this luscious fruit, comprising over fifty varieties, were on the tables. Mr. SUYDAM was awarded the first premium for the greatest variety, and Capt. DAKIN, and Mr. MESSER, for finest specimens, and Mr. W. F. COOK for best quart *Boston Pine*. R. G. PARDEE had a large number of varieties from his old garden in Palmyra, which were for exhibition merely. Messrs. THORP, SMITH, HANCHETT & Co., of Syracuse, and Messrs. DELL & COLLINS, from Waterloo, as well as the Messrs. MAXWELLS and Messrs. SMITHS, of this place, added much to the exhibition by the fine display of fruits and flowers from their nurseries. Our friends from Syracuse exhibited eighteen named varieties of fine Cherries, and lots of fine flowers; but I must not take up more room to refer to either lot, or specify wherein each one excelled. This exhibition was highly satisfactory, and we expect to have even a better one another year. R. G. P.

EXHIBITION OF THE MONTREAL (C. E.) HORTICULTURAL SOCIETY.—The June exhibition this year, which took place yesterday, was not so extensive as we have seen it on previous occasions. Nevertheless, the various horticultural products which were shown were, in quality, fully equal

to any thing we have seen in past seasons. The most striking part of the collection was the Fuchsias, which occupied one end of the room, and were not only very handsome, but in great variety. Near them came several handsome descriptions of green-house plants, and some stove plants, sent by JOHN TORRANCE, such as have never before been exhibited in Montreal. Some of the varieties of these tropical exotics were remarkably delicate. Among the better known descriptions of flowers, the Roses occupied the first place; they were in great numbers and variety. Mr. COOPER's seedlings, though they did not come within the rules for a prize, merited especial remark. The Roses of Messrs. COCKBURN & BROWN were also well worth notice. These gentlemen had sent something like one hundred and fifty blooms, of all varieties and colors. Nor were their herbaceous plants (which, like the Roses, were merely exhibited, and not intended to compete) at all an unimportant part of the exhibition. Among them, that showy plant, the Phlox, was well represented; and we observed in the specimens three new varieties, which have been named *A. J. Downing, Henry Corse*, and *James Cooper*. These have never flowered till this year. The herbaceous plants of Mr. TURNER were also very much and justly admired, as were Mr. HUGAL's Geraniums, though they did not take a prize on account of some technical rules.

Among the vegetables we saw fine new potatoes, cabbages, peas, and cucumbers. The best of these were certainly Mr. QUINN's potatoes; but not having been grown in the open air, they were not eligible for a prize. We should be doing great injustice if we passed over the splendid collection of strawberries shown by Messrs. COCKBURN and BROWN, TURNER, and ARCHBOLD. We doubt if any English garden could show finer varieties, or specimens of the varieties shown.

A novel feature was some wild flowers sent by Mr. FARIS from Sorel. One of these was the Pitcher plant, or *Saracenia purpurea*, whose grotesque form, and constant supply of water in its cells are traditional; the *Kaldnia latifolio*, and the *Cypripedium alceolus*.—*Montreal Herald.*

HAMILTON (C. W.) HORTICULTURAL SOCIETY.—We understand the Hamilton Horticultural Society is in a very flourishing condition. Its exhibitions, two of which have been held the present season, have been excellent, and well attended by the intelligent citizens of Hamilton and its vicinity. The third exhibition is to be held on the 21st of September, and the liberal premiums offered for that show speak well for the Society. They show liberality and discretion, combined with thorough knowledge. The following gentlemen are office-bearers for the ensuing year:

President.—WILLIAM PRING.

Vice President.—WILLIAM MUNDIE.

Secretary.—WILLIAM CRAIGIE.

Treasurer.—ROBERT OSBORNE.

Managing Committee.—Messrs. S. Wilson, J. Thompson, G. E. Cartwright, J. F. Moore, James Gay, W. L. Distin, J. Gardner.

DELAWARE HORTICULTURAL SOCIETY.—At a stated meeting of this Society, held June 21, 1853, the Secretary reported the schedule for the fall exhibition, printed and ready for distribution.

E. TATWALL, Jr., proposed WILLIAM WEBB for membership.

CHARLES W. HOWLAND was unanimously elected a member of this Society.

THOMAS STAPLER exhibited specimens of the *Wilder* and *Cushing* raspberries, and E. TATWALL, Jr., the *Wilder, True Red Antwerp, American Red*, and a variety from Canada which is everbearing; also, a variety of currants—*Red Dutch, White Dutch, White Grape, Red Grape, Knight's Sweet Red, May's Victoria*, and a large English gooseberry, without mildew.

WILLIAM K. SMITH exhibited four jars, one of Cherries, one of red, and one of black currants, and one of blackberries, put up one year ago.

WILLIAM CANBY, Secretary.

Mr. AVOY'S SUPERIOR.